

**Vehicle Research and Test Center
Left Crabbed Moving Barrier Impact
WorldSID
2011 Jeep Grand Cherokee Laredo
TRC Inc. Test Number: 120906**

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Final Report

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TRC TEST NUMBER: 120906

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Report Approved July 18, 2013

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Section 1

Purpose and Test Procedure

Purpose

This moving deformable barrier side impact test is part of Federal Motor Vehicle Safety Standard 214 Side Impact Protection. It was conducted for the National Highway Traffic Safety Administration (NHTSA) and Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc.). The purpose of this test was to refine the seating procedure for the 50th male and 5th female WorldSID dummies and to begin to evaluate the performance of the post-FMVSS 214 fleet. The test was conducted in accordance with the National Highway Traffic Safety Administration's modified test procedures FMVSS 214/NCAP side impact moving deformable barrier (January, 2010) along with VRTC seating procedure for the WorldSID dummies.

Section 2

Side Impact Test Results

Summary of Side Impact Test

A 2011 Jeep Grand Cherokee Laredo was impacted on the left side by a crabbed moving deformable barrier, at a velocity of 61.4 km/h (38.2 mph). The target vehicle was stationary and was positioned at an angle of 62.5° to the line of forward motion. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, Ohio on September 6, 2012. Pre-test and post-test photographs of the test vehicle, the moving barrier, and the side impact dummies (WorldSID) are included in Appendix A.

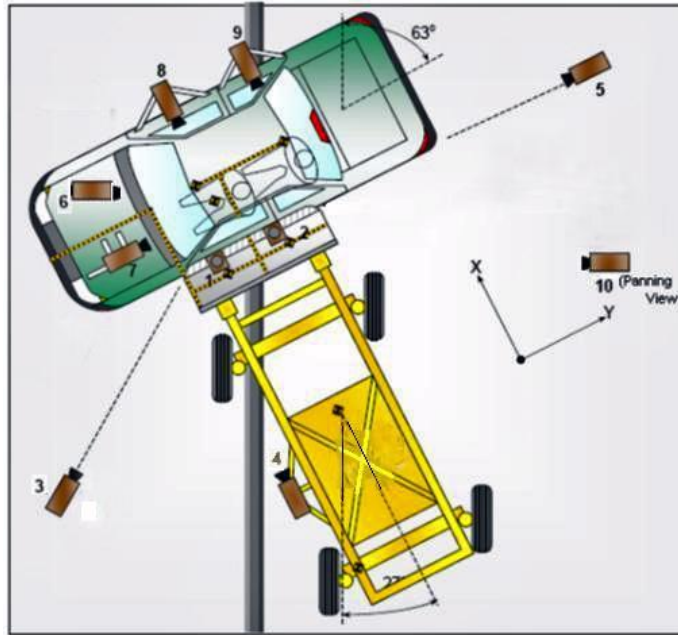
One restrained Side Impact Dummy, (WorldSID) S/N 14, was placed in the driver (Position #1) designated seating position and one restrained Side Impact Dummy, (WorldSID) S/N DG 236, was placed in the left rear passenger (Position #4) designated seating position according to the instructions specified in the VRTC WorldSID Seating Procedures. The WorldSID's were calibrated prior to this test. The side impact test was documented by one (1) real-time camera and nine (9) high-speed digital cameras. Camera locations and other pertinent camera information are included in this report

The driver front airbag, passenger front airbag, and passenger side curtain and torso airbags were disabled prior to the test performance.

The WorldSID's instrumentation is detailed in Table 4. The 50th female WorldSID dummy contained 2D IRTRACC data channels. One Hundred Fifty Four (154) dummy channels of acceleration, force, moment, and displacement data were collected for this test.

A summary of the side impact dummies (WorldSID) configuration and verification test data can be found in Appendix C. A total of 216 channels of data were recorded. Appendix B contains the vehicle, barrier, and dummy response data traces.

Test Results Summary



	Front WorldSID (#014)	Rear WorldSID (#236)
HIC36 (g) CFC 1000	25	135
Upper Rib Deflection (mm) CFC 600	See Table 4	See Table 4
Lower Rib Deflection (mm) CFC 600	See Table 4	See Table 4
Lower Spine Resultant (g) CFC 180	34.9 g	44.4 g
Pubic Symphysis Force (N) CFC 600	-522.8 N	-574.3 N

	2011 Jeep Grand Cherokee Laredo
Vehicle Test Weight	2312.2 kg (5097.5 lbs)
Impact Point (Horizontal) rearward of front axle	516 mm
Impact Angle	62.5
Maximum Crush	203 mm Level 2
Impact Speed	61.4 km/h

Data Acquisition Explanations

The Driver Dummy Lumbar Spine Z-axis torque data channel recorded questionable data throughout the event.

The Left Lower A Post y-axis acceleration data channel lost data after approximately 75 milliseconds.

The Left Lower B Post y-axis acceleration data channel lost data after approximately 30 milliseconds.

The Left Middle B Post y-axis acceleration data channel lost data after approximately 30 milliseconds.

The Left Rear Seat Structure y-axis acceleration data channel recorded questionable data.

The Vehicle Center of Gravity Pitch Rate angular rate gyro data channel exceeded full scale.

The Vehicle Center of Gravity Yaw Rate angular rate gyro data channel recorded no valid data.

The Vehicle at EDR Roll Rate angular rate gyro data channel exceeded full scale.

The Left Front Door Mid Centerline y-axis acceleration data channel lost data after approximately 10 milliseconds.

The Left Front Door Mid Rear y-axis acceleration data channel lost data after approximately 25 milliseconds

The SAB Timing Ind. Sensor recorded no data.

The MDB Rear y-axis acceleration data channel recorded questionable data.

The Driver Primary sensor recorded no data.

Section 3

Summary of Test Results

Table 1 General Test Vehicle Parameter Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

TEST VEHICLE INFORMATION

Make	Jeep
Model	Grand Cherokee Laredo
Body Style	MPV
VIN	1J4RS4GGXBC658612
Color	Dark Gray
Odometer Reading	327
Transmission	Automatic
Final Drive	4-Wheel
Number of Cylinders	6
Engine Displacement	3.6
Engine Placement	V
Air Conditioning	Yes
Power Windows	Yes
Power Seats	Yes
Cruise Control	Yes
Tinted Glass	Yes
Keyless Entry	Yes

TEST VEHICLE OPTIONS

Driver Front Airbag	Yes ¹
Driver Side Curtain Airbag	Yes
Driver Side Torso Airbag	Yes
Rear Passenger Side/Curtain Airbag	Yes
Rear Passenger Side Torso Airbag	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Anti-lock Brakes	Yes
Traction Control	No
Bucket Seats	Yes
Rear Defroster	Yes
4-Door	Yes
AM/FM Radio	Yes
CD Player	Yes
Sun Roof	No
Telescoping Steering Wheel/Column	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Chrysler Group LLC
Date of Manufacture	4/11

GVWR (kg)	2949
GAWR Front (kg)	1452
GAWR Rear (kg)	1679

Measured Parameter	Front	Mid	Rear	Total
Type of Seats	Bucket	N/A	Split Bench	
Number Of Occupants	2	0	3	5
Capacity Wt. (VCW) (kg)				476

¹ Airbags were disabled prior to the test performance

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

TEST VEHICLE WEIGHTS

	Units	As Delivered (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	516.2	510.8		564.4	605.4	
Right	kg	526.2	503		544	598.4	
Ratio	%	50.7	49.3		47.9	52.1	
Totals	kg	1042.4	1013.8	2056.2	1108.4	1203.8	2312.2

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight	kg	2056.2
Weight of WorldSID ATD	kg	125
Rated Cargo/Luggage Weight (RCLW)	kg	136.0
Calculated Vehicle Target Weight (TVTW)	kg	2317.2

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	853	853	890	890	1440
As Tested	mm	830	831	856	860	1520
Fully Loaded	mm	840	845	857	868	1556

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2920
Total Vehicle Length at Left Side	mm	4550
Total Vehicle Length at Centerline	mm	4830
Total Vehicle Length at Right Side	mm	4555
Weight of Ballast	kg	68.0
Amount of Stoddard Solvent in Fuel Tank	liters	84.4

TEST VEHICLE IMPACT ACCURACY DATA

Measurement Description	Units	Intended	Actual	Difference
Impact Reference Line From Front Axle	mm	508	516	8 right
Impact Point Angle	Degrees	63	62.5	0.5

Table 1 General Test Vehicle Parameter Data, Continued

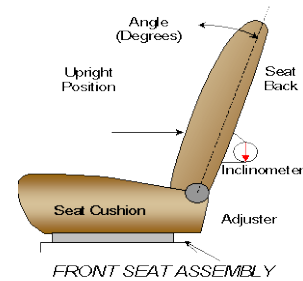
Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

WORLD SID RIDING POSITION

The driver seat back is positioned according to the procedure defined in SAE J826, “Devices for use in Defining and Measuring Vehicle Seating Accommodation”, November, 2008.

Driver seat back angle: The back was adjusted to 12.2° as measured at torso angle with Oscar.

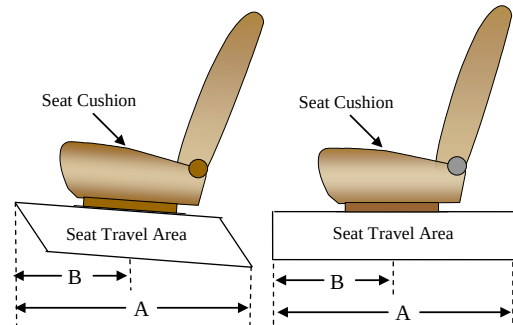


SEAT FORE/AFT POSITIONS

The total seat travel was measured from forward most position to rearmost position, irrespective of vertical seat height in those positions. The seat was set at the longitudinal mid position with vertical adjustment at the lowest position obtainable for the driver. The rear seating position was not tested.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	20 mm rear of mid track	WSID Procedure
Rear Seat	N/A	N/A



SEAT BELT UPPER ANCHORAGE

	Total No. of Positions	Placed in Position No.
Driver Seat	5	1
Rear Seat	N/A	N/A

Position number one is the uppermost adjustment position.

Table 1 General Test Vehicle Parameter Data, Continued

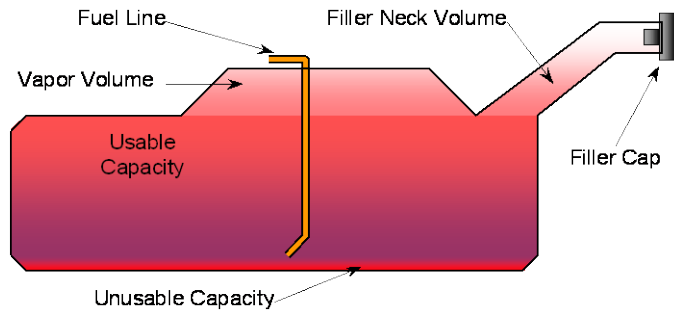
Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	93.1
Usable Capacity used for FMVSS 301	85.6-87.5
Actual Amount of Solvent used	84.4

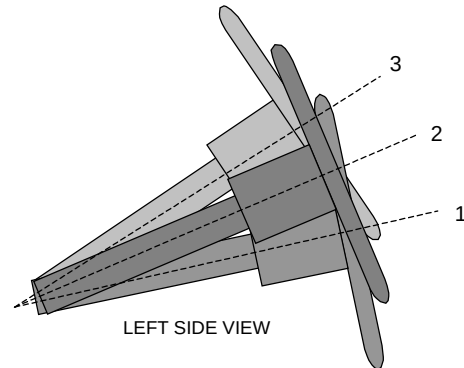
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

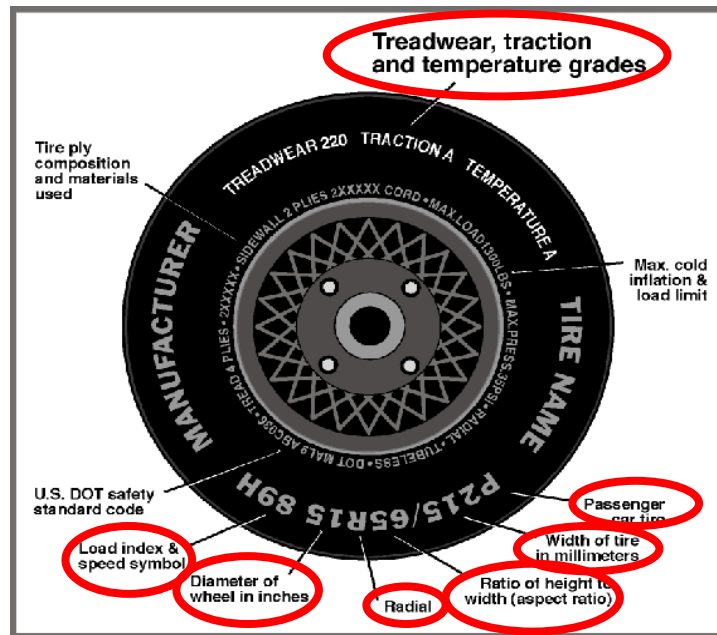
Steering Column Tilt Position	Degrees
Lowermost Position	69.6
Geometric Center Position	67.4
Uppermost Position	65.2

Steering Column Telescoping Position	(mm)
Full In Position	95.0
Full Out Position	150.0
Test Position	27.5

Table 2 Test Vehicle Tire Information

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold / Test Pressure (kPa)	230	230
Recommended Tire Size	P245/70R17	P245/70R17
Tire Size on Vehicle	P245/70R17	P245/70R17
Tire Manufacturer	Goodyear	Goodyear
Tire Name	Fortera	Fortera
Radial	Yes	Yes
Wheel Diameter (in)	17	17
Load Index & Speed Symbol	108T	108T
Tread wear	540	540
Traction Grade	A	A
Temperature Grade	B	B

Table 3 Post-Test Observations

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat WorldSID	Rear Seat WorldSID
Dummy Type / Serial No.	WorldSID / 014	WorldSID / 236
Head Contact	SCAB, HR	SCAB
Upper Torso Contact	SAB	Door Panel
Lower Torso Contact	SAB	Door Panel
Left Knee Contact	Door panel	Door Panel
Right Knee Contact	None	None

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Unlocked	Unlocked
Left Side Door Opening	Jammed shut	Jammed shut
Right Side Door Opening	Closed & operational	Closed & operational
Seat Movement	None	None
Seat Back Failure	None	None

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No
Sill Separation	No
Windshield Damage	None
Window Damage	None
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 01		Left Rear (Passenger) Occupant Location 04	
	Installed	Operation	Installed	Operation
Front Airbag	Yes	No ¹	NA	NA
Torso Airbag	Yes	Yes	NA	NA
Head Airbag	NA	NA	NA	NA
Curtain Airbag	Yes	Yes	Yes	Yes
Seat Belt Pre-tensioner	NA	NA	NA	NA
Seat Belt Load Limiter	NA	NA	NA	NA

¹ The driver front airbag was disabled for this test.

Section 4

Occupant, Vehicle and MDB Information

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo Test Date: 09/06/12
 Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Head Acceleration (g)	X	2.4	274.1	-8.3	69.1
	Y	14.6	66.8	-1.4	308.6
	Z	13.0	39.0	-2.1	115.7
	R	17.1	67.8	---	---
Head Rotational Acceleration (rad/sec ²)	X	1940.0	47.0	-2209.5	28.2
	Y	500.7	104.1	-620.3	47.8
	Z	606.4	47.6	-629.8	30.9
Head Angular Velocity (°/sec)	X	896.3	203.3	-485.0	134.5
	Y	329.0	179.9	-461.5	233.9
	Z	833.5	209.5	-1037.8	253.5
Upper Neck Force (N)	X	72.2	266.0	-88.2	65.1
	Y	291.0	29.4	-65.1	122.1
	Z	514.5	38.2	-221.0	97.0
Upper Neck Moment (N-m)	X	25.0	49.3	-20.7	29.0
	Y	7.3	104.8	-11.8	47.3
	Z	8.0	91.3	-4.1	309.9
Lower Neck Force (N)	X	96.6	266.1	-132.8	80.4
	Y	469.5	29.8	-63.0	309.9
	Z	553.2	37.8	-257.8	96.4
Lower Neck Moment (N-m)	X	59.3	59.3	-8.5	310.0
	Y	19.3	147.9	-17.1	299.2
	Z	7.5	50.2	-4.1	309.9
Shoulder Acceleration (g)	X	103.4	12.0	-59.1	15.3
	Y	128.2	11.8	-129.8	13.5
	Z	80.5	13.8	-136.6	13.4
	R	188.9	13.4	---	---
Shoulder Force (N)	X	38.1	22.4	-657.4	38.8
	Y	47.9	103.2	-1560.6	21.1
	Z	252.1	10.7	-9.0	172.6
Shoulder Displacement (mm)	Y	4.1	24.4	-0.2	80.5

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo Test Date: 09/06/12
 Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
T1 Acceleration (g)	X	6.0	32.7	-5.7	78.8
	Y	26.3	21.1	-1.8	276.0
	Z	4.1	82.6	-6.5	38.8
	R	26.4	21.1	---	---
Thorax Rib 1 Acceleration (g)	X	44.5	18.6	-50.4	32.8
	Y	65.0	17.3	-43.8	23.0
	Z	23.1	19.5	-27.8	14.9
	R	65.3	17.3	---	---
Thorax Rib 1 Displacement (mm)	Y	4.0	24.5	-0.2	72.7
Thorax Rib 2 Acceleration (g)	X	67.0	9.5	-55.9	10.4
	Y	89.6	9.8	-39.8	13.6
	Z	18.9	20.8	-31.3	14.0
	R	101.2	9.6	---	---
Thorax Rib 2 Displacement (mm)	Y	1.8	28.1	-0.1	71.0
Thorax Rib 3 Acceleration (g)	X	47.5	9.6	-53.3	10.6
	Y	95.4	10.0	-56.0	13.5
	Z	20.5	18.2	-73.1	82.9
	R	96.9	9.9	---	---
Thorax Rib 3 Displacement (mm)	Y	3.4	28.6	-0.1	72.9
Abdominal Rib 1 Acceleration (g)	X	61.5	17.9	-77.2	15.7
	Y	95.3	11.3	-50.8	15.4
	Z	28.6	82.8	-31.3	13.8
	R	101.2	11.3	---	---
Abdominal Rib 1 Displacement (mm)	Y	2.6	29.4	-0.2	153.2
Abdominal Rib 2 Acceleration (g)	X	95.7	12.6	-168.2	13.9
	Y	183.2	12.1	-89.3	15.3
	Z	34.7	15.7	-29.0	14.4
	R	225.0	12.0	---	---
Abdominal Rib 2 Displacement (mm)	Y	2.6	25.9	-0.4	181.6

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo Test Date: 09/06/12
 Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
T4 Acceleration (g)	X	5.4	32.9	-6.0	85.0
	Y	22.8	17.4	-2.3	67.3
	Z	6.6	39.4	-4.6	82.4
	R	23.0	17.4	---	---
T12 Acceleration (g)	X	5.3	36.4	-10.2	18.6
	Y	34.7	28.1	-4.9	86.9
	Z	4.9	34.7	-4.4	82.2
	R	34.9	28.1	---	---
Pelvis Acceleration (g)	X	2.6	130.7	-7.5	14.0
	Y	30.9	30.1	-9.6	73.7
	Z	7.7	23.1	-8.2	61.5
	R	31.2	30.0	---	---
Pubic Force (N)	Y	4.4	3.8	-522.8	38.5
Lumbar Force (N)	X	269.9	40.3	-184.9	15.6
	Y	135.8	28.2	-219.5	87.8
	Z	871.3	49.3	-402.9	84.2
Lumbar Moment (N-m)	X	11.9	114.2	-14.5	41.2
	Y	16.6	85.3	-14.7	39.2
	Z	0.0	204.4	0.0	8.3
Sacro-Iliac Right Moment (N-m)	X	20.7	63.3	-28.9	87.8
	Y	5.9	15.5	-5.2	26.5
	Z	18.2	15.1	-17.9	48.7
Sacro-Iliac Right Force (N)	X	132.2	191.4	-189.7	31.4
	Y	6.2	5.5	-918.1	32.3
	Z	438.6	53.3	-264.8	87.0

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo Test Date: 09/06/12
 Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Sacro-Iliac Left Moment (N-m)	X	28.2	49.2	-20.8	114.2
	Y	18.0	53.2	-7.0	20.3
	Z	18.8	30.3	-13.3	47.2
Sacro-Iliac Left Force (N)	X	90.2	15.4	-385.7	38.0
	Y	39.5	231.6	-1511.2	30.7
	Z	213.1	114.3	-566.8	29.7
Left Mid Femur Force (N)	X	24.8	25.5	-107.8	77.0
	Y	67.4	50.4	-182.4	32.8
	Z	953.5	45.0	-84.6	205.1
Left Mid Femur Moment (N-m)	X	68.9	54.9	-21.5	69.1
	Y	8.7	36.3	-31.3	68.1
	Z	2.8	223.7	-25.4	55.2
Left Femoral Neck Force (N)	X	107.0	37.5	-332.9	78.0
	Y	236.3	73.6	-381.6	35.9
	Z	74.2	224.6	-958.5	38.1
Right Femoral Neck Force (N)	X	80.0	308.8	-290.6	52.1
	Y	37.9	15.2	-308.5	42.8
	Z	447.0	50.2	-61.5	78.2
Left Knee Outboard Force (N)	Y	575.5	34.9	-160.5	78.2
Left Knee Inboard Force (N)	Y	143.0	29.9	-2371.1	54.6

Positive Direction

Longitudinal: Forward
 Lateral: Rightward
 Vertical: Downward

Negative Direction

Longitudinal: Rearward
 Lateral: Leftward
 Vertical: Upward

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo Test Date: 09/06/12
 Left Rear Passenger Dummy Serial Number: 236

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Head Acceleration (g)	X	4.3	204.3	-10.2	70.4
	Y	37.7	74.9	-14.0	204.6
	Z	5.8	112.9	-11.6	80.8
	R	39.6	75.6	---	---
Head Rotational Acceleration (rad/sec ²)	X	1052.1	64.8	-2345.0	78.5
	Y	543.1	111.4	-897.2	71.9
	Z	1543.4	204.3	-1445.4	223.1
Head Angular Velocity (°/sec)	X	1540.2	41.4	-940.8	86.7
	Y	326.0	193.9	-204.3	61.9
	Z	434.1	137.2	-524.8	77.4
Upper Neck Force (N)	X	126.5	100.7	-31.0	143.0
	Y	81.4	206.8	-423.1	96.3
	Z	187.6	208.1	-613.4	80.7
Upper Neck Moment (N-m)	X	13.1	97.0	-14.5	78.2
	Y	3.7	59.6	-8.8	77.0
	Z	6.6	290.0	-15.6	218.0
Lower Neck Force (N)	X	82.9	184.6	-111.9	75.6
	Y	364.0	77.4	-215.4	96.3
	Z	202.9	208.6	-635.8	81.2
Lower Neck Moment (N-m)	X	3.7	77.5	-42.0	97.3
	Y	4.7	144.6	-13.7	202.4
	Z	6.9	291.2	-15.5	219.1
Shoulder Acceleration (g)	X	25.6	56.4	-20.6	67.7
	Y	71.8	52.8	-15.1	62.3
	Z	22.0	56.2	-17.3	53.2
	R	73.4	52.8	---	---
Shoulder Force (N)	X	174.4	60.5	-96.5	81.5
	Y	180.1	104.6	-1320.9	64.7
	Z	72.0	49.6	-53.3	124.4
Shoulder Displacement (mm)	Y	32.1	72.6	-2.8	105.6

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo Test Date: 09/06/12
 Left Rear Passenger Dummy Serial Number: 236

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
T1 Acceleration (g)	X	4.7	176.2	-11.4	64.1
	Y	41.0	70.6	-5.3	209.0
	Z	6.2	96.1	-1.6	172.9
	R	42.6	70.6	---	---
Thorax Rib 1 Acceleration (g)	X	16.0	28.1	-39.3	57.2
	Y	63.1	57.4	-15.0	20.5
	Z	23.9	57.0	-12.2	60.0
	R	76.8	57.3	---	---
Thorax Rib 1 IRTAC Compression (mm)	Y	9.2	69.1	-0.9	23.4
Thorax Rib 1 Rotational Pot (deg)	Z	3.8	120.5	-1.7	70.4
Thorax Rib 1 IRTAC Deflection (mm)	X	5.5	120.7	-2.2	72.0
Thorax Rib 1 IRTAC Deflection (mm)	Y	9.2	69.1	-0.8	24.4
Thorax Rib 2 Acceleration (g)	X	11.1	107.4	-21.7	59.4
	Y	48.8	61.5	-3.4	167.1
	Z	9.7	58.2	-10.1	94.8
	R	52.3	61.5	---	---
Thorax Rib 2 IRTAC Compression. (mm)	Y	0.6	127.2	-0.7	90.6
Thorax Rib 2 Rotational Pot (deg)	Z	3.3	117.9	2.0	221.4
Thorax Rib 2 IRTAC Deflection (mm)	X	4.7	120.8	3.1	222.0
Thorax Rib 2 IRTAC Deflection (mm)	Y	0.6	127.3	-0.6	90.6
Thorax Rib 3 Acceleration (g)	X	12.4	101.6	-19.9	54.1
	Y	40.4	59.1	-6.7	16.3
	Z	19.2	61.7	-22.1	95.0
	R	44.5	57.1	---	---
Thorax Rib 3 IRTAC Compression. (mm)	Y	3.8	68.9	-0.6	51.6
Thorax Rib 3 Rotational Pot (deg)	Z	0.7	83.2	-1.1	67.7
Thorax Rib 3 IRTAC Deflection (mm)	X	1.0	87.8	-1.6	73.2
Thorax Rib 3 IRTAC Deflection (mm)	Y	3.8	68.9	-0.6	51.6
Abdominal Rib 1 Acceleration (g)	X	17.0	99.4	-27.8	52.0
	Y	58.9	55.6	-41.0	43.7
	Z	62.2	55.2	-42.6	55.6
	R	73.1	55.6	---	---
Abdominal Rib 1 IRTAC Compression. (mm)	Y	12.3	67.7	-0.2	49.1
Abdominal Rib 1 Rotational Pot (deg)	Z	3.0	88.2	-3.2	62.3

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2011 Jeep Grand Cherokee Laredo Test Date: 09/06/12
 Left Rear Passenger Dummy Serial Number: 236

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Abdominal Rib 1 IRTRAC Deflection (mm)	X	4.3	88.3	-4.2	61.3
Abdominal Rib 1 IRTRAC Deflection (mm)	Y	12.4	67.7	-0.2	49.1
Abdominal Rib 2 Acceleration (g)	X	18.0	62.9	-38.1	65.2
	Y	82.6	64.8	-15.8	61.9
	Z	39.7	55.8	-39.4	65.8
	R	90.4	65.0	---	---
Abdominal Rib 2 IRTRAC Compression (mm)	Y	8.3	61.5	-0.8	163.2
Abdominal Rib 2 Rotational Pot (deg)	Z	1.1	85.5	-4.3	62.3
Abdominal Rib 2 IRTRAC Deflection (mm)	X	1.5	87.0	-5.7	60.2
Abdominal Rib 2 IRTRAC Deflection (mm)	Y	8.5	61.5	-0.8	163.2
T4 Acceleration (g)	X	4.2	176.7	-11.3	64.6
	Y	36.9	65.3	-5.2	208.9
	Z	6.3	96.4	-1.3	113.6
	R	38.7	65.3	---	---
T12 Acceleration (g)	X	3.2	100.1	-11.6	60.6
	Y	42.9	61.3	-6.6	99.8
	Z	5.2	95.3	-2.6	155.1
	R	44.4	61.3	---	---
Pelvis Acceleration (g)	X	2.6	128.4	-13.0	53.6
	Y	31.3	53.5	-2.6	102.0
	Z	8.4	70.1	-12.9	53.4
	R	36.1	53.5	---	---
Pubic Force (N)	Y	16.3	22.3	-574.3	54.5

Positive Direction

Longitudinal: Forward
 Lateral: Rightward
 Vertical: Downward

Negative Direction

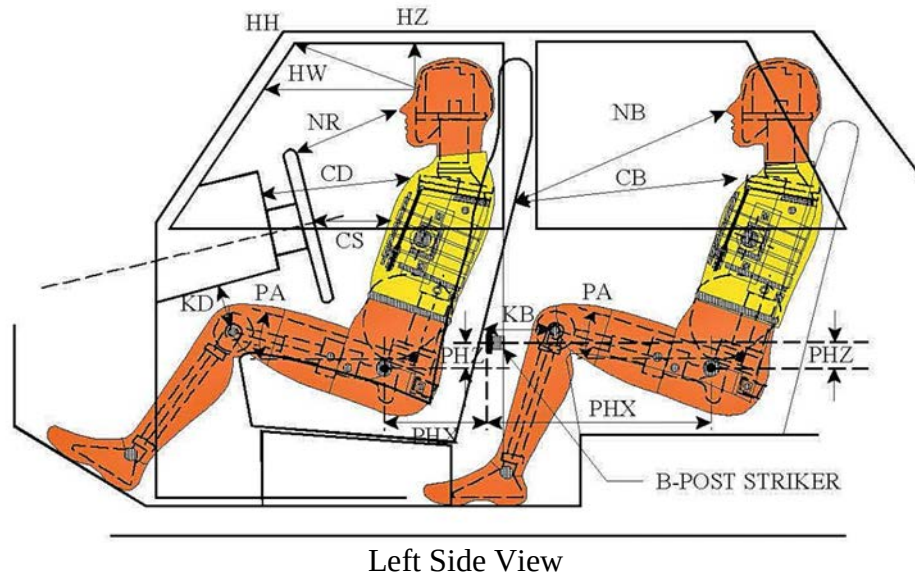
Longitudinal: Rearward
 Lateral: Leftward
 Vertical: Upward

¹ No Negative Value

Figure 1 WorldSID Longitudinal Clearance Dimensions

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



Measurement	Measurement Description	Driver WorldSID #016		Passenger WorldSID #236	
		Length (mm)	Angle	Length (mm)	Angle
HH	Header to Header	486			
HW	Header to Windshield	799			
HZ	Head to Roof Liner	271		333	
NR	Nose to Rim/Seat Back	493			
CD	Chest to Dash/Seat Back	644			
CS	Chest to Steering Wheel	440			
KD(L)/KDA(L)°	Left Knee to Dash/Seat Back	171	13.5		
KD(R)/KDA(R)°	Right Knee to Dash/Seat Back	193	7.9		
PAX°	Pelvic Tilt Angle X		0.4		1.3
PAY°	Pelvic Tilt Angle Y		-0.1		-15.5
PHX	Hip Point to Striker (X-Axis)	183		271	
PHZ	Hip Point to Striker (Z-Axis)	106		180	
HAX°	Head Tilt Angle X		-0.5		-0.6
HAY ¹ °	Head Tilt Angle Y		1.5		1.3
TAX°	Thorax Tilt Angle X		-0.7		-1.8
TAY°	Thorax Tilt Angle Y		-0.7		-1.2

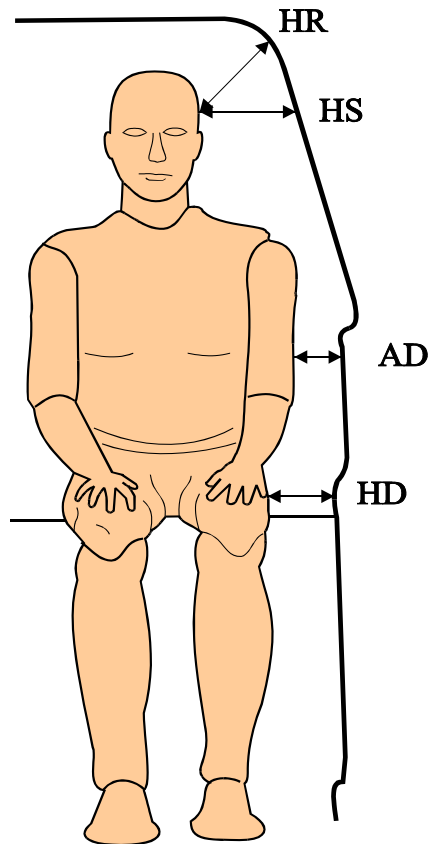
Note: All measurements are in millimeters.

¹NR was measured from bridge of nose

Figure 2 WorldSID Lateral Clearance Dimensions

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



Measurement	Driver WorldSID # 014	Passenger WorldSID # 236
HR	263	314
HS	364	407
AD	Lower: 149 Upper: 107	Lower: 185 Upper: 147
HD	132	124

Note: All measurements are in millimeters.

Table 5 WorldSID Position Relative to Striker

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

Driver Dummy Serial Number: 014

Location	Driver #014		Passenger #236	
	X	Z	X	Z
M_HEAD CG	2299	-843	1395	-782
M_H POINT	2468	-177	1605	-242
M_KNEE	2900	-297	1973	-328
M_ANKLE	3190	6	2101	13
M_RIB 1	2358	-623	1470	-566
M_RIB 2	2390	-544	1500	-508
M_RIB 3	2428	-480	1518	-453
M_RIB 4	2447	-429	1540	-412
M_RIB 5	2462	-378	1560	-368
M_RIB 6	2483	-332	1580	-328

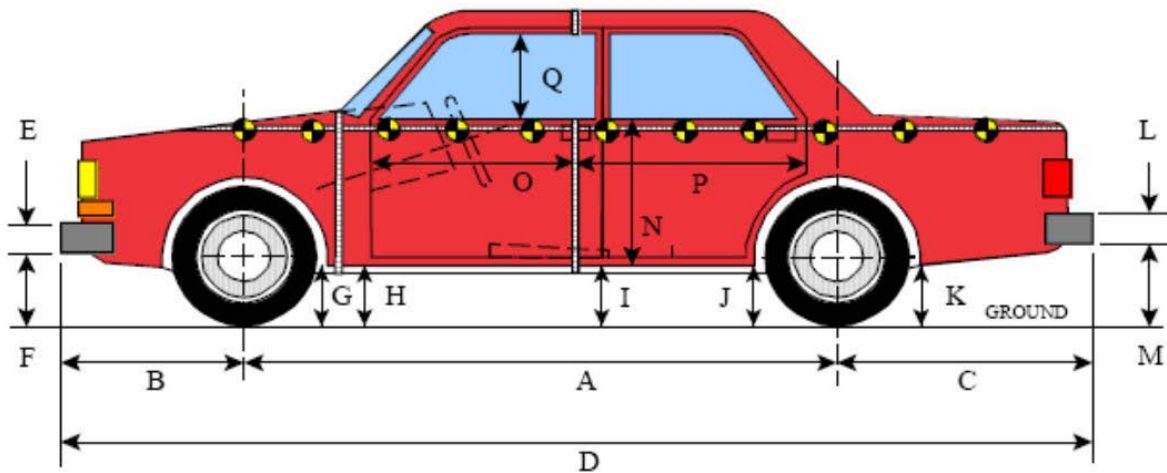
Note: All measurements are in millimeters

Positive values are forward and down relative to the striker.

Figure 3 Vehicle Pre-Test And Post-Test Measurements

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



Left Side View

Note: Measurements were achieved by using a tape measure.

All dimensions are in millimeters

	Pre-Test (as delivered)	Pre-Test (as tested)	Post-Test (as tested)	Change
A	2920	2920	2910	10
B	875	875	875	0
C	1035	1035	1035	0
D	4830	4830	4830	0
E	150	150	150	0
F	539	533	563	-30
G	367	365	370	-5
G1	382	370	400	-30
H	389	375	405	-30
I	401	382	435	-53
J1	303	277	318	-41
J2	419	388	447	-59
K	502	470	503	-33
L	110	110	110	0
M	630	598	622	-24
N	835	835	806	29
O	712	712	710	2
P	1363	1363	1320	43
Q	430	430	407	23
R	4555	4555	4555	0
S	4550	4550	4550	0
T	1395	1395	1360	35

D = Length at centerline

E and L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-pillar

J1 = To Pinch Weld

J2 = To Sill

Table 6 Vehicle Structural Measurements^{1,2}

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

	Elements	Pre-Test
1	Total Length	4830
2	Total Width	1950
3	Bumper Top Height	548
4	Bumper Bottom Height	470
5	Longitudinal Member Top Height	650
6	Longitudinal Member Bottom Height	480
7	Distance Between Longitudinal Members	950
7'	Longitudinal Member Width	75
8	Engine Top Height	1090
9	Engine Bottom Height	275
10	Engine and Gearbox Width	650
11	Front Bumper - Engine Distance	690
12	Front Shock Absorber Fixing Height	1018
13	Bonnet Leading Edge Height	985
14	Front Shock Absorber Fixing Width	950
15	Front Bumper - Front Axle Distance	850
16	Front Axle - A Pillar Distance	740
17	A Pillar - B Pillar Distance	1030
18	B Pillar - Rear Axle Distance	1164
19	B Pillar - C Pillar Distance	910
20	Roof Sill Bottom Height	1638
21	Roof Sill Top Height	1650
22	Floor Sill Bottom Height	400
23	Floor Sill Top Height	460

All distance measurements are in millimeters and achieved by using a tape measure.

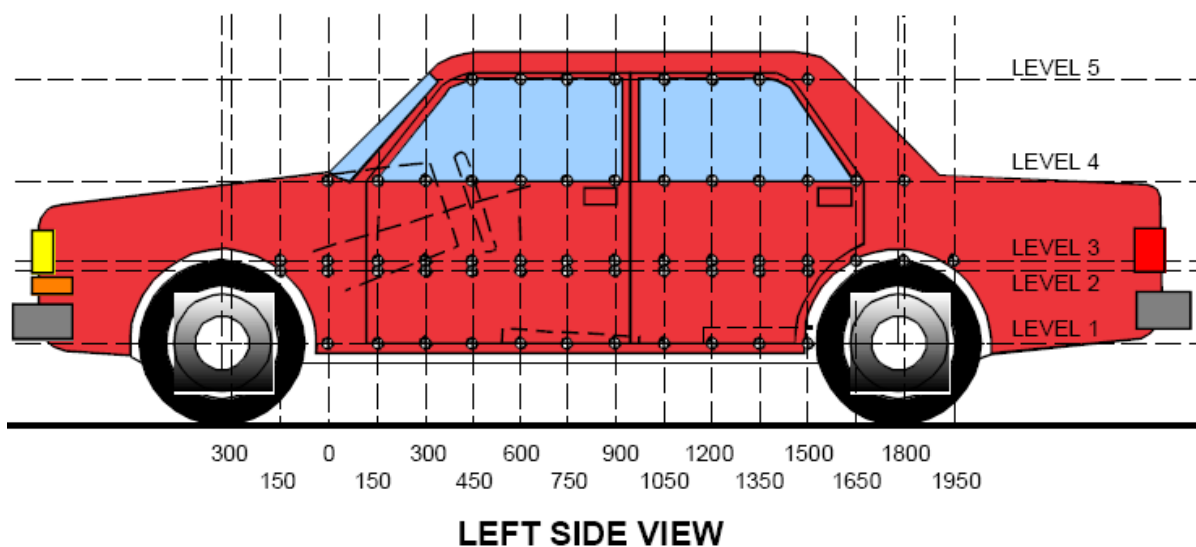
¹ Taken from INSIA report, “Structural Survey of Cars, Methodology of the Main Resistant Elements in the Car Body”, March 1999.

² The vertical measurements from the ground are adjusted based on the test vehicle’s pre-test attitude measurements.

Figure 4 Vehicle Side Measurements

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Crush	Distance from Impact
5	Window Top	1691	-17	900
4	Window Sill	1173	188	750
3	Mid Door	822	193	900
2	Occupant H-Point	768	203	1050
1	Side Sill	466	127	1200

Note: Measurements were taken using a FARO arm at crush grid zero vertical line.
 Measurements are taken when the vehicle is in the "As Tested" configuration.
 Measurements forward of the vehicle impact reference line are negative.
 All measurements are in mm.

Location	Height		(mm) From Impact Point													
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750
Level 1 Side Sill	466	Pre									951	929	929	929	928	927
		Post									951	869	823	816	810	806
		Crush									0	60	106	113	118	121
Level 2 H-Point	768	Pre									993	976	954	950	951	950
		Post									988	955	892	841	801	769
		Crush									5	21	62	109	150	182
Level 3 Mid-Door	822	Pre									986	973	956	956	956	955
		Post									982	953	900	857	801	779
		Crush									4	20	56	99	155	177
Level 4 Window Sill	1173	Pre									883	889	893	897	904	909
		Post									885	890	900	902	903	900
		Crush									-2	-1	-7	-5	1	6
Level 5 Window Top	1691	Pre														
		Post														
		Crush														

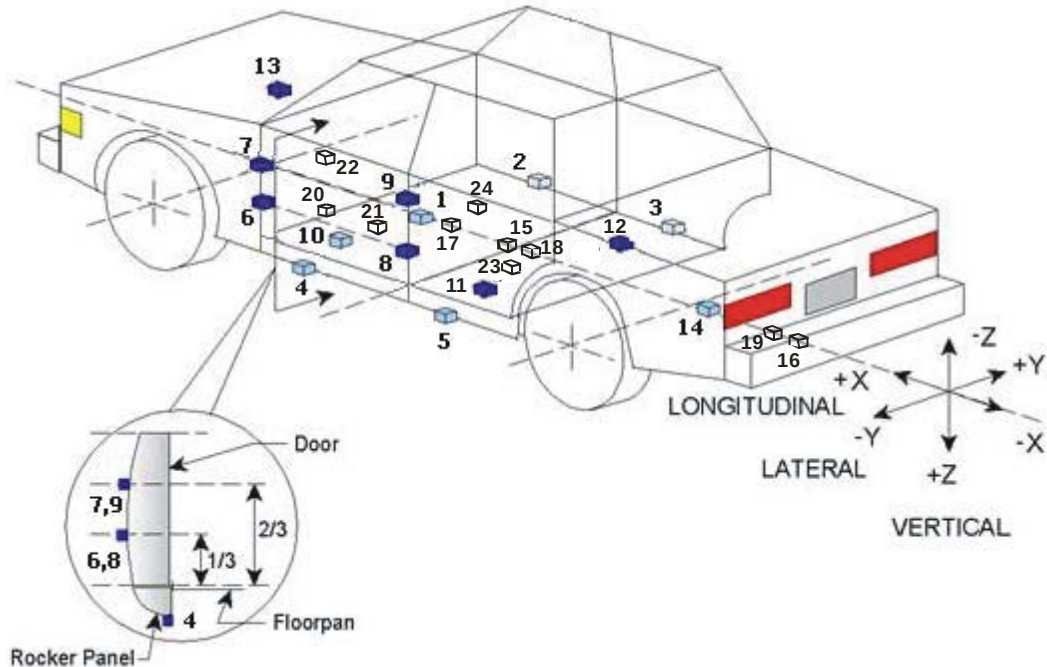
Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	466	Pre	925	923	920	915	910	905	919	937					
		Post	802	798	793	801	800	801	828	901					
		Crush	123	125	127	114	110	104	91	36					
Level 2 H-Point	768	Pre	948	946	943	938	933	926	935	964					
		Post	751	743	749	739	733	732	796	871					
		Crush	197	203	194	199	200	194	139	93					
Level 3 Mid-Door	822	Pre	953	950	947	941	934	926	935	963	978				
		Post	760	754	778	777	765	745	780	865	956				
		Crush	193	196	169	164	169	181	155	98	22				
Level 4 Window Sill	1173	Pre	915	916	915	914	912	910	906	931	923	896	888	878	868
		Post	895	889	881	853	858	861	863	892	896	881	879	875	868
		Crush	20	27	34	61	54	49	43	39	27	15	9	3	0
Level 5 Window Top	1691	Pre	657	671	678	681	680	678	675	669	663	656	646	639	626
		Post	674	680	680	679	680	678	676	672	667	660	650	641	628
		Crush	-17	-9	-2	2	0	0	-1	-3	-4	-4	-4	-2	-2

All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of ± 0.1 mm.

Figure 5 Test Vehicle Accelerometer Locations and Data Summary

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



- | | |
|-------------------------------------|--------------------------------------|
| 1-Vehicle CG | 13-Engine Block |
| 2-Right Side Sill Front | 14-Rear Floorpan |
| 3-Right Side Sill Rear | 15-Vehicle at EDR ¹ |
| 4-Left Side Sill Front | 16-Rear Deck |
| 5-Left Side Sill Rear | 17-Vehicle CG Gyros |
| 6-Left Side Lower A-Pillar | 18-Vehicle at EDR Gyros ¹ |
| 7-Left Side Middle A-Pillar | 19-Rear Deck Gyros |
| 8-Left Side Lower B-Pillar | 20-Left Front Door Mid Centerline |
| 9-Left Side Middle B-Pillar | 21-Left Front Door Mid Rear |
| 10-Left Front Seat Track | 22-Left Front Door Upper Centerline |
| 11-Left Rear Seat Track | 23-Left Rear Door Mid Rear |
| 12- Right Rear Occupant Compartment | 24-Left Rear Door Upper Centerline |

¹Location of accelerometer may change depending on vehicle EDR location.

Table 8 Test Vehicle Transducer Locations and Data Summary

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

Location		Coordinates (mm)			Positive Direction		Negative Direction	
		X	Y	Z	Max	Time (ms)	Max	Time (ms)
1	Vehicle CG	3080	-0	681				
	Longitudinal (g)				2.3	8.1	-5.5	22.4
	Lateral (g)				28.0	7.9	-1.8	216.8
	Vertical (g)				21.1	15.1	-11.5	8.1
	Resultant				30.3	7.9		
2	Right Side Sill Front	3320	682	446				
	Longitudinal (g)				3.4	61.4	-5.2	6.8
	Lateral (g)				29.8	8.5	-2.6	214.6
	Vertical (g)				3.4	50.3	-6.7	12.1
	Resultant				30.2	8.5		
3	Right Side Sill Rear	2375	690	452				
	Longitudinal (g)				3.3	61.6	-7.2	7.2
	Lateral (g)				28.0	7.6	-2.2	92.9
	Vertical (g)				3.9	6.4	-10.2	14.0
	Resultant				29.0	7.5		
4	Left Side Sill Front	3327	-682	450				
	Lateral (g)				34.1	4.6	-17.4	13.7
5	Left Side Sill Rear	2425	-690	450				
	Lateral (g)				30.7	6.3	-7.8	13.6
6	Left Side Lower A-Pillar	3705	-832	670				
	Lateral (g)				54.9	3.7	-674.0	76.8
7	Left Side Middle A-Pillar	3692	-830	1044				
	Lateral (g)				49.1	8.7	-6.0	15.5
8	Left Side Lower B-Pillar ¹	2660	-850	699				
	Lateral (g)				644.2	34.0	-1530.1	91.7
9	Left Side Middle B-Pillar	2610	-840	1119				
	Lateral (g)				2070.3	38.6	-76.8	30.0
10	Front Seat Track	2835	-590	507				
	Lateral (g)				27.8	18.2	-20.8	33.3
11	Rear Seat Track	2135	-550	499				
	Lateral (g)				80.0	27	-303.6	21.7

Table 8 Test Vehicle Transducer Locations and Data Summary, Continued

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

Location		Coordinates (mm)			Positive Direction		Negative Direction	
		X	Y	Z	Max	Time (ms)	Max	Time (ms)
12	Right Rear Occupant Compartment	2145	550	480				
	Lateral (g)				28.9	7.3	-2.3	13.8
13	Engine Block	4338	-122	1092				
	Longitudinal (g)				4.0	105.5	-9.7	39.7
	Lateral (g)				38.5	38.4	-9.6	16.2
14	Rear Floorpan	1454	0	586				
	Longitudinal (g)				2.4	61.0	-5.1	7.4
	Lateral (g)				23.0	7.8	-2.7	92.4
	Vertical (g)				10.1	7.2	-13.4	11.1
	Resultant				25.4	7.6		
15	Vehicle at EDR	2955	-22	731				
	Longitudinal (g)				5.1	15.2	-6.1	21.3
	Lateral (g)				23.7	8.5	-4.7	14.6
	Vertical (g)				18.8	15.1	-14.5	8.9
	Resultant				27.7	8.7		
16	Rear Deck	695	0	710				
	Longitudinal (g)				2.0	64.1	-6.1	14.6
	Lateral (g)				23.4	24.4	-2.5	93.1
	Vertical (g)				7.0	13.9	-5.5	44.8
	Resultant				24.3	24.6		
17	Vehicle CG	3120	0	688				
	Roll (°/sec)				165.4	33.9	-119.5	230.0
	Pitch (°/sec)				531.2	51.0	-277.2	14.5
	Yaw (°/sec)				35.7	83.1	-874.2	77.0
18	Vehicle at EDR	2955	10	731				
	Roll (°/sec)				364.7	8.7	-112.0	229.7
	Pitch (°/sec)				74.6	17.0	-136.2	10.1
	Yaw (°/sec)				262.8	9.7	-163.1	33.7

Table 8 Test Vehicle Transducer Locations and Data Summary, Continued

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12

Location		Coordinates (mm)			Positive Direction		Negative Direction	
		X	Y	Z	Max	Time (ms)	Max	Time (ms)
19	Rear Deck	800	0	586				
	Roll (°/sec)				99.0	51.4	-101.4	231.5
	Pitch (°/sec)				72.4	23.0	-161.0	10.4
	Yaw (°/sec)				39.0	18.8	-69.5	236.0
20	Left Front Door Mid Centerline	3171	-812	809				
	Lateral (g)				2068.6	14.7	-71.3	6.2
21	Left Front Door Mid Rear	2820	-795	809				
22	Left Front Door Upper Centerline	3171	-795	1101				
	Lateral (g)				54.9	14.3	-50.6	23.5
	Lateral (g)				112.3	20.2	-2223.8	28.7
23	Left Rear Door Mid Rear	1962	-795	792				
	Lateral (g)				136.4	12.6	-75.9	20.1
24	Left Rear Door Upper Centerline	2165	-780	1134				
	Lateral (g)				147.6	7.5	-34.9	31.6

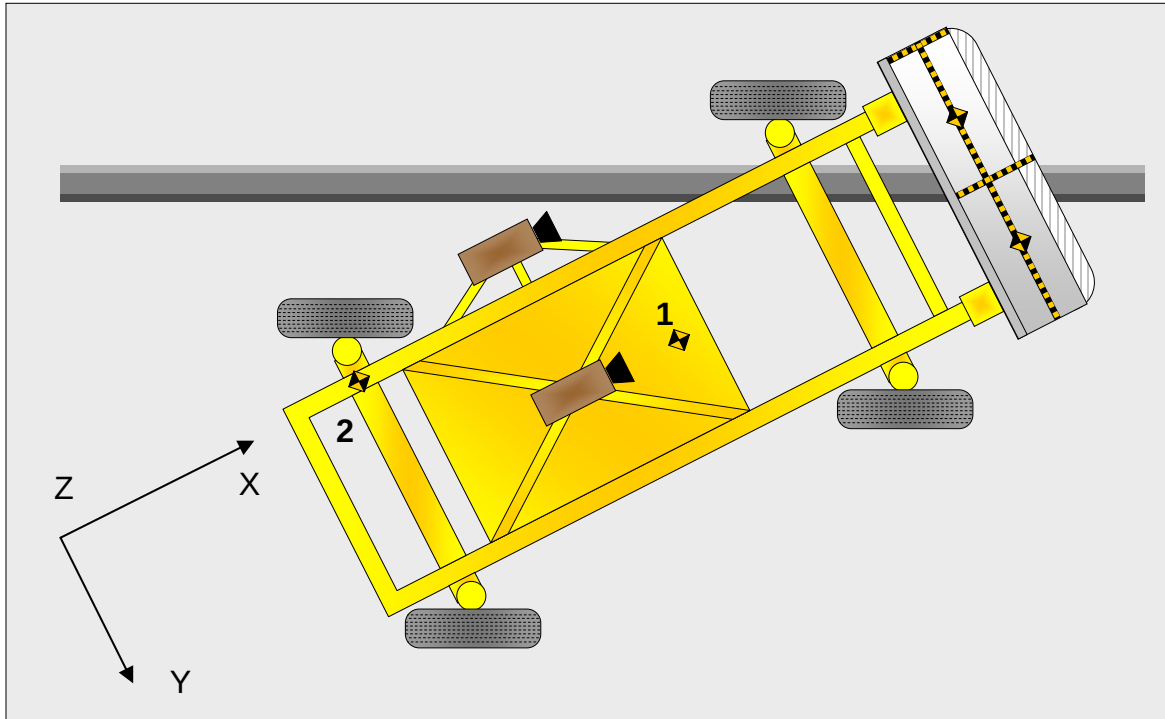
Reference: X: + Forward from rear bumper
Y: + Rightward from vehicle centerline
Z: + Upward from ground level

For acceleration data sign convention see Report Sign Convention in Appendix D.

Table 9 MDB Test Data Summary

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
1	MDB CG				
	Longitudinal (g)	3.0	123.3	-30.0	14.9
	Lateral (g)	1.8	67.3	-9.1	41.4
	Vertical (g)	11.7	13.0	-11.9	18.3
	Resultant	31.2	14.6		
2	MDB Rear Frame				
	Longitudinal (g)	2.7	128.6	-24.6	24.2
	Lateral (g)	4.6	24.8	-6.4	198.7

Reference : X - Face of MDB (+ forward)
Y - MDB Centerline (+ to right)
Z - Ground Plane (+ down)

Table 9 MDB Test Data Summary, Continued

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	420.2	261.6	
Right	kg	356.2	329.6	
Ratio	%	56.8	43.2	
Totals	kg	776.4	591.2	1367.6

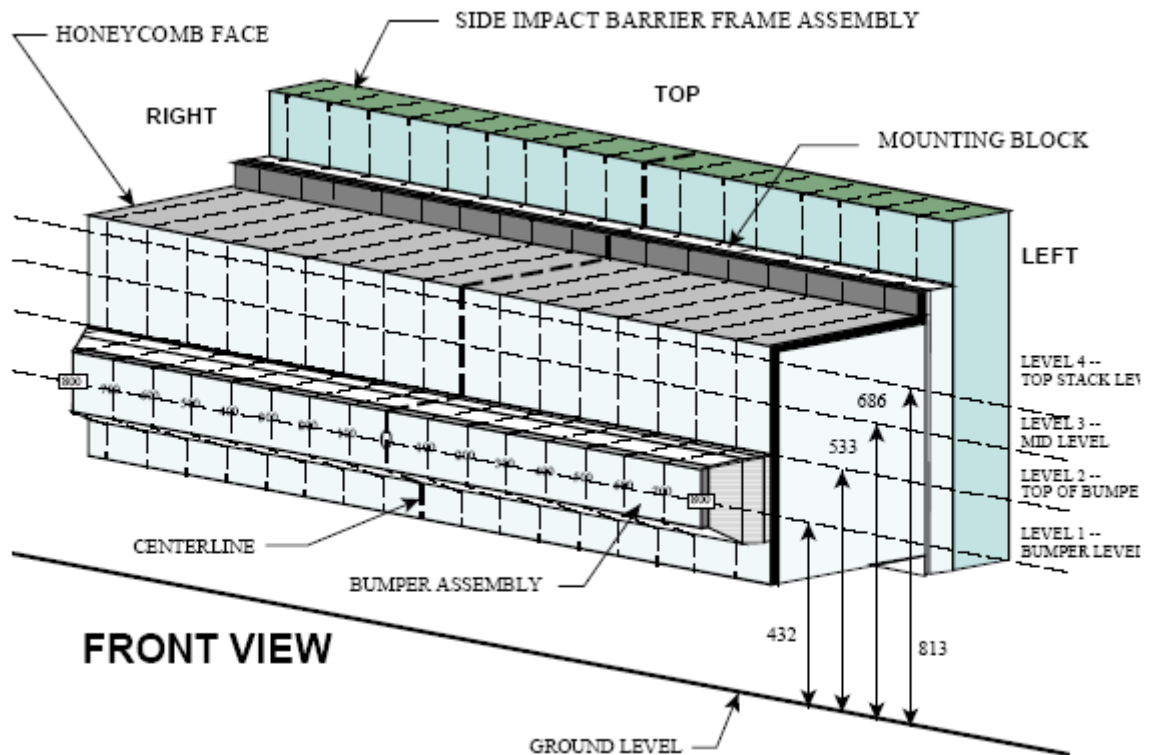
SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.4
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.4
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	91.5
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	62.5
MDB Crabbed Angle to MDB Forward Line of Motion	degrees	26 to 28	26.0

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE

Vertical Location			From Centerline		Maximum Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Left	-232
B	Top of Bumper	533	800	Right	-169
C	Mid-Level	686	800	Left	-162
D	Top of Stack	813	800	Left	-166

Table 9 MDB Test Data Summary, Continued



NOTE: Dimensions are shown in millimeters, mm

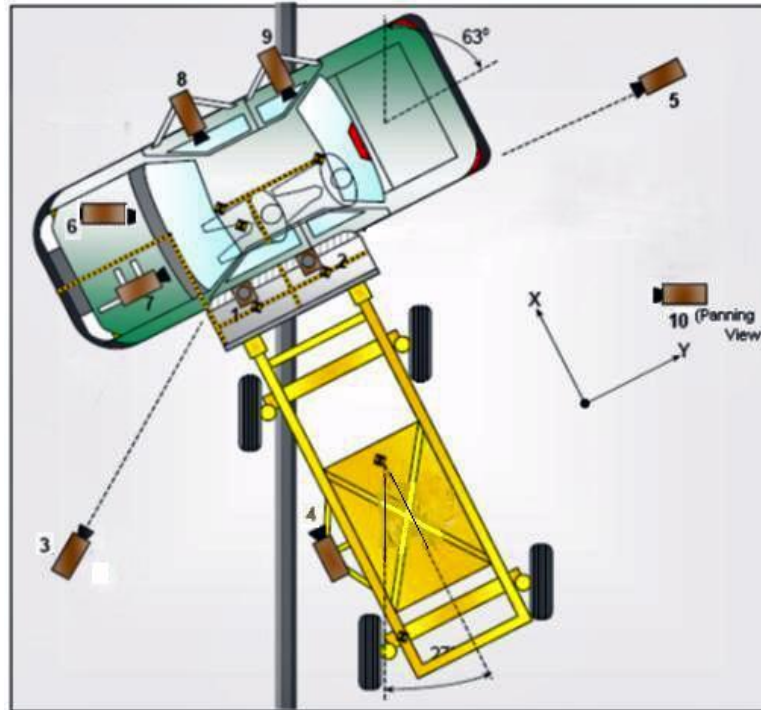
DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	-89	-100	-113	-111	-116	-84	-81	-98	-88	-61	-64	-68	-76	-85	-96	-120	-166
2	-84	-78	-76	-76	-97	-103	-121	-119	-82	-65	-60	-64	-70	-76	-85	-99	-162
3	-169	---	---	---	---	---	---	---	---	---	---	-149	-146	-145	-144	-147	-151
4	-232	-224	-222	-222	-220	-220	-220	-218	-216	-211	-207	-204	-203	-202	-201	-208	-221

Figure 6 High-Speed Camera Locations and Data Summary

Test Vehicle: 2011 Jeep Grand Cherokee Laredo

Test Date: 09/06/12



No.	Camera View	Lens (mm)	Speed (fps)
1	Overhead wide view	8.5	1000
2	Overhead tight	25	1000
3	Impact point	12.5	1000
4	Struck side at impact	8.5	1000
5	Rear view	12.5	1000
6	Onboard driver front oblique	12.5	1000
7	Onboard driver front	12.5	1000
8	Onboard driver side	8.5	1000
9	Onboard rear passenger	8.5	30
10	Real-time	Zoom	30

Appendix A

Photographs



Figure A-1 Pre-Test Front View

Photo Not Taken

Figure A-2 Post-Test Front View



Figure A-3 Pre-Test Left Front View



Figure A-4 Post-Test Left Front View



Figure A-5 Pre-Test Left Side View



Figure A-6 Post-Test Left Side View



Figure A-7 Pre-Test Left Rear View



Figure A-8 Post-Test Left Rear View



Figure A-9 Pre-Test Rear View



Figure A-10 Post-Test Rear View



Figure A-11 Pre-Test Right Side View



Figure A-12 Post-Test Right Side View



Figure A-13 Pre-Test Overhead View



Figure A-14 Post-Test Overhead View



Figure A-15 Pre-Test Primary Impact Point View



Figure A-16 Post-Test Primary Impact Point View



Figure A-17 Pre-Test Secondary Impact Point View



Figure A-18 Post-Test Secondary Impact Point View



Figure A-19 Pre-Test Driver Dummy - View 1



Figure A-20 Post-Test Driver Dummy - View 1



Figure A-21 Pre-Test Driver Dummy - View 2



Figure A-22 Post-Test Driver Dummy - View 2



Figure A-23 Pre-Test Driver Dummy - View 3



Figure A-24 Post-Test Driver Dummy - View 3



Figure A-25 Pre-Test Driver Door Panel View



Figure A-26 Post-Test Driver Door Panel View



Figure A-27 Post-Test Driver Dummy Contact - View 1



Figure A-28 Post-Test Driver Dummy Contact – View 2



Figure A-29 Pre-Test Rear Passenger Dummy - View 1



Figure A-30 Post-Test Rear Passenger Dummy - View 1



Figure A-31 Pre-Test Rear Passenger Dummy - View 2

Photo Not Taken

Figure A-32 Post-Test Rear Passenger Dummy - View 2

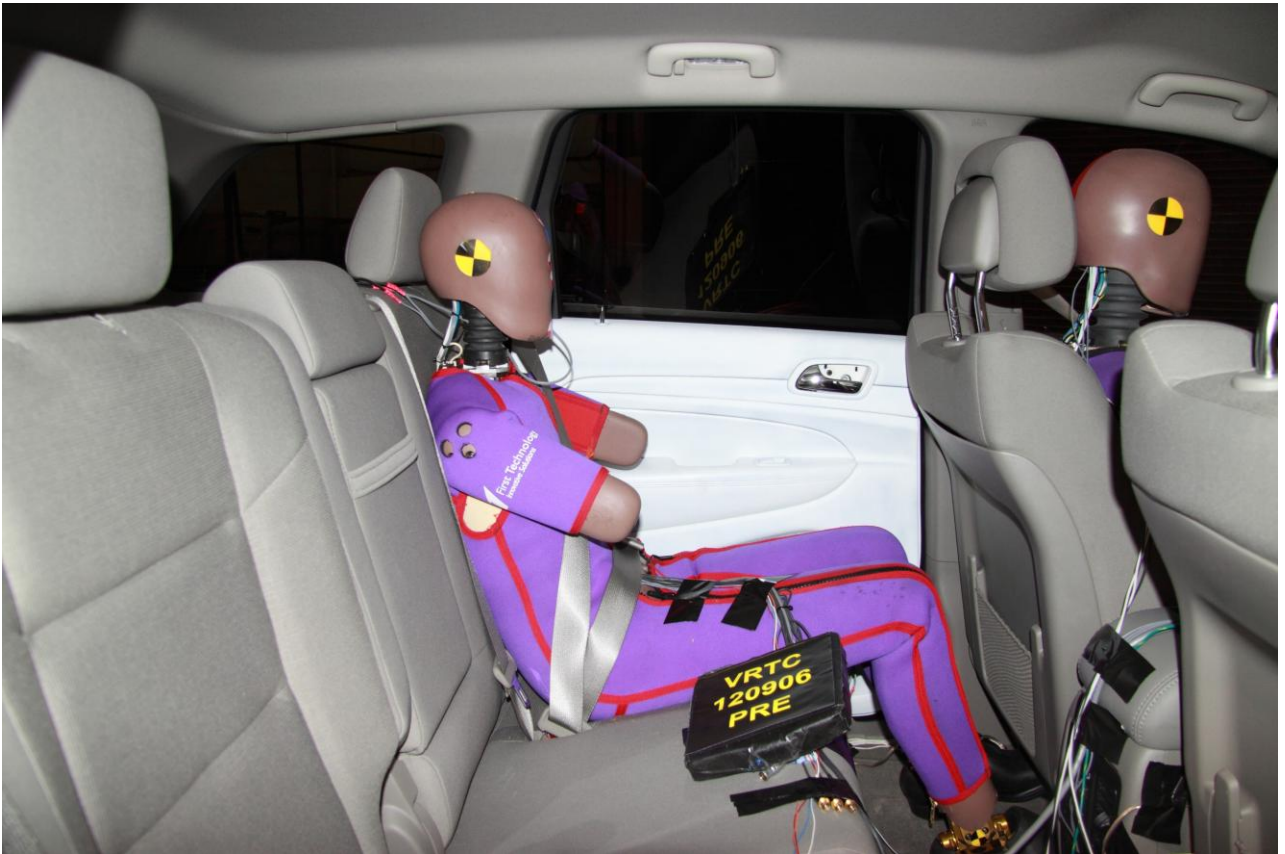


Figure A-33 Pre-Test Rear Passenger Dummy - View 3



Figure A-34 Post-Test Rear Passenger Dummy - View 3



Figure A-35 Pre-Test Rear Passenger Door Panel View



Figure A-36 Post-Test Rear Passenger Door Panel View



Figure A-37 Post-Test Rear Passenger Dummy Contact – View 1



Figure A-38 Post-Test Rear Passenger Dummy Contact – View 2

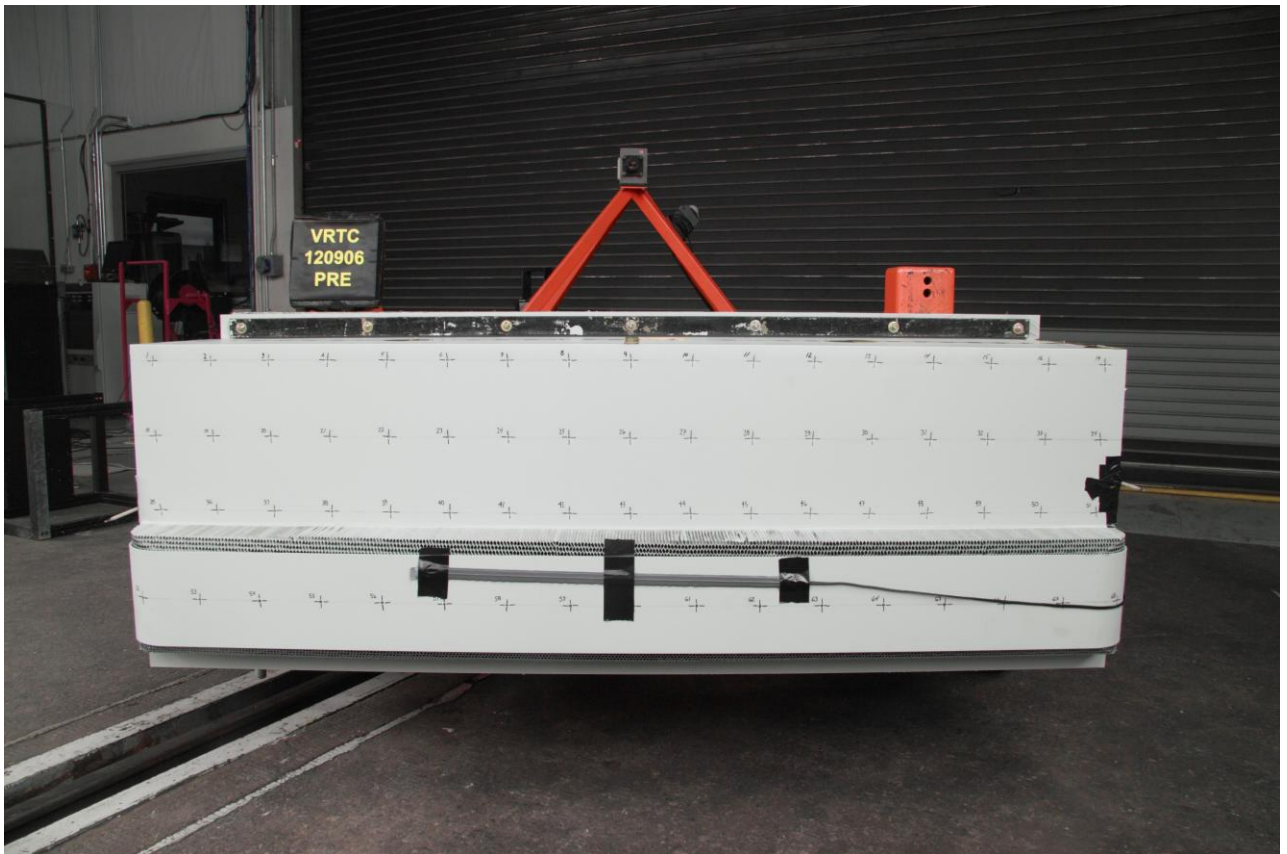


Figure A-39 Pre-Test MDB Face Front View

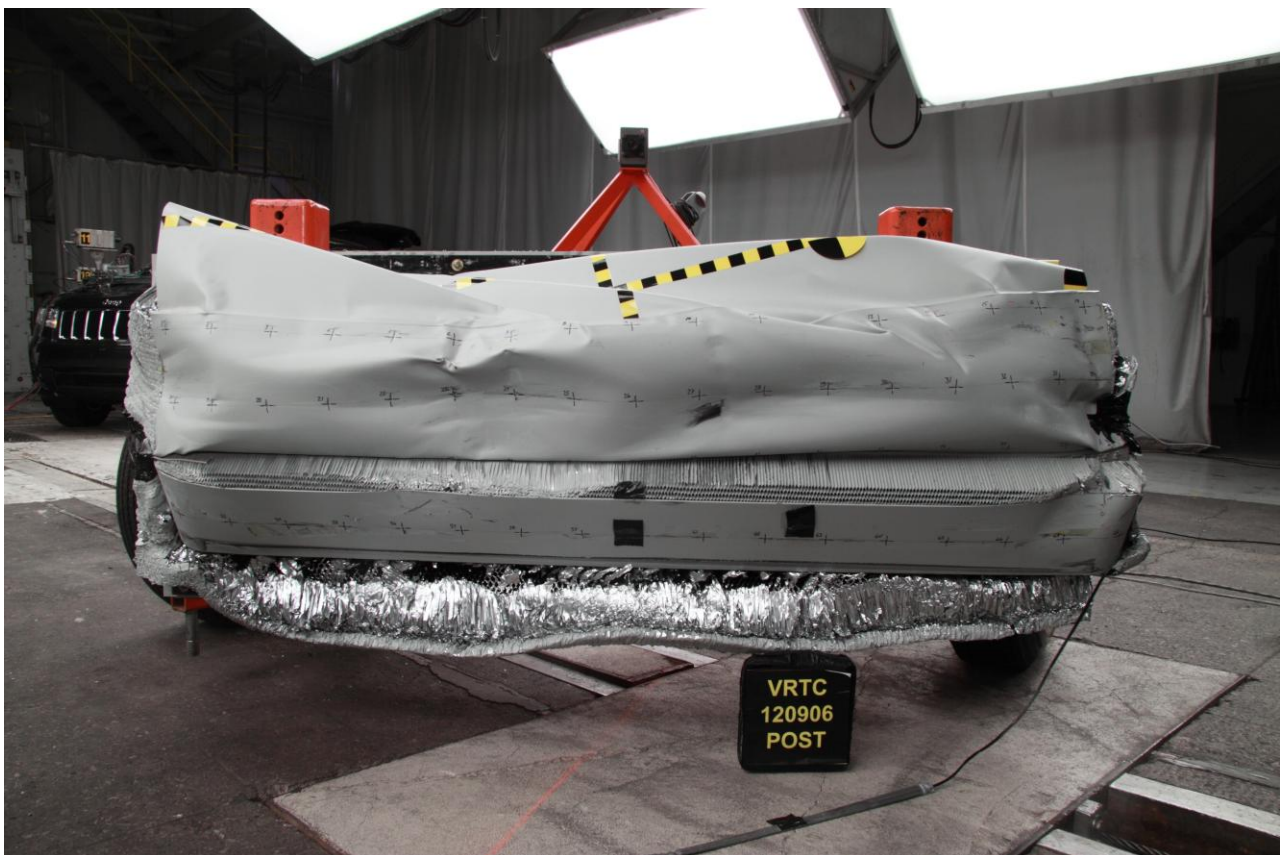


Figure A-40 Post-Test MDB Face Front View

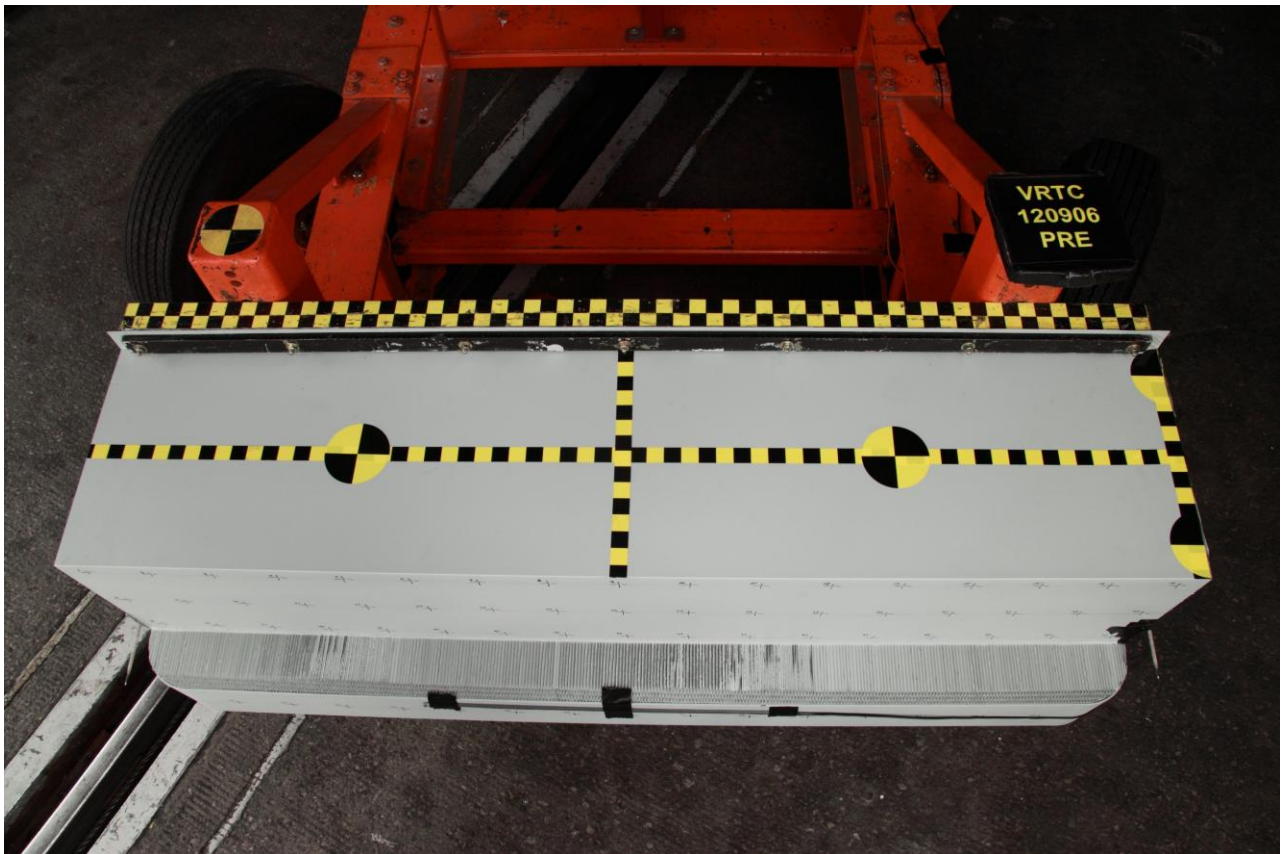


Figure A-41 Pre-Test MDB Face Top View



Figure A-42 Post-Test MDB Face Top View



Figure A-43 Pre-Test MDB Face Left Front View

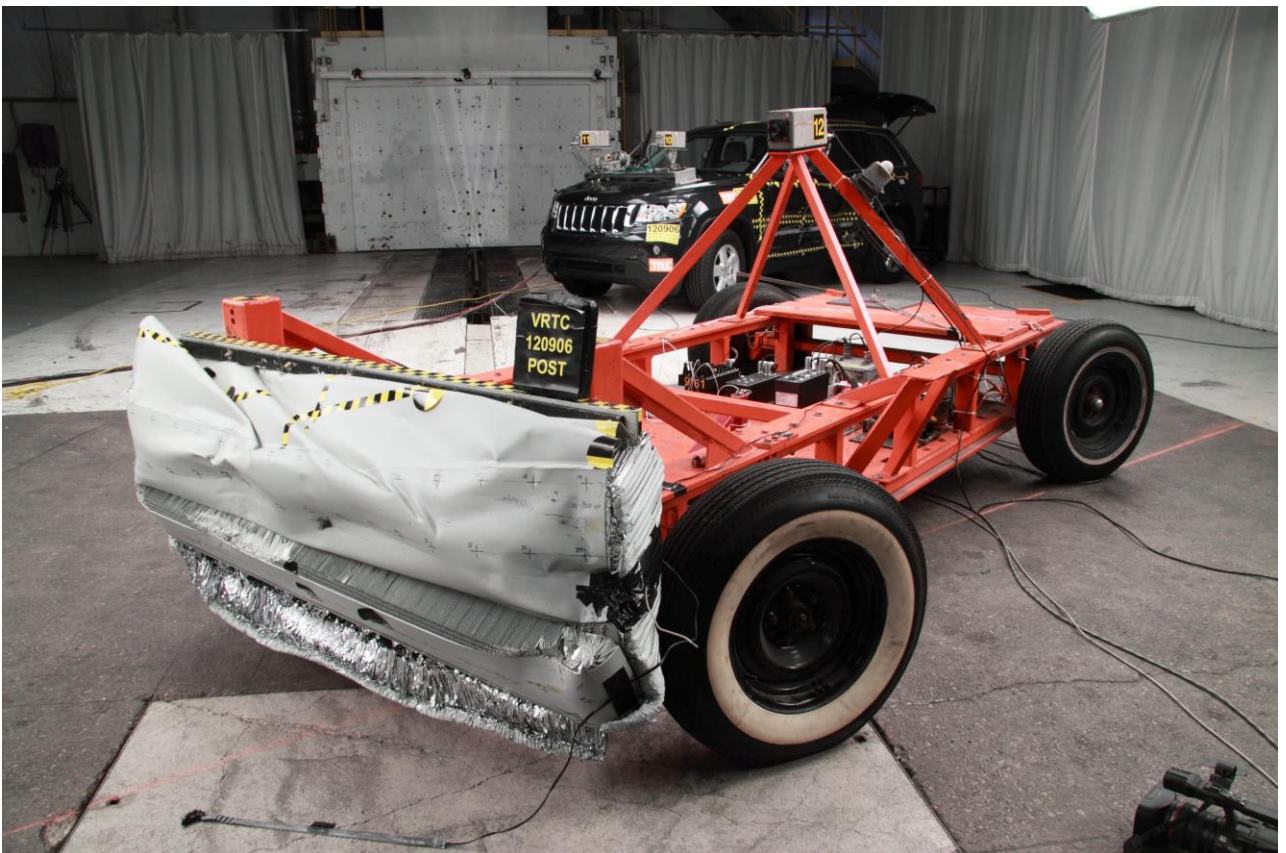


Figure A-44 Post-Test MDB Face Left Front View



Figure A-45 Pre-Test MDB Face Right Front View



Figure A-46 Post-Test MDB Face Right Front View

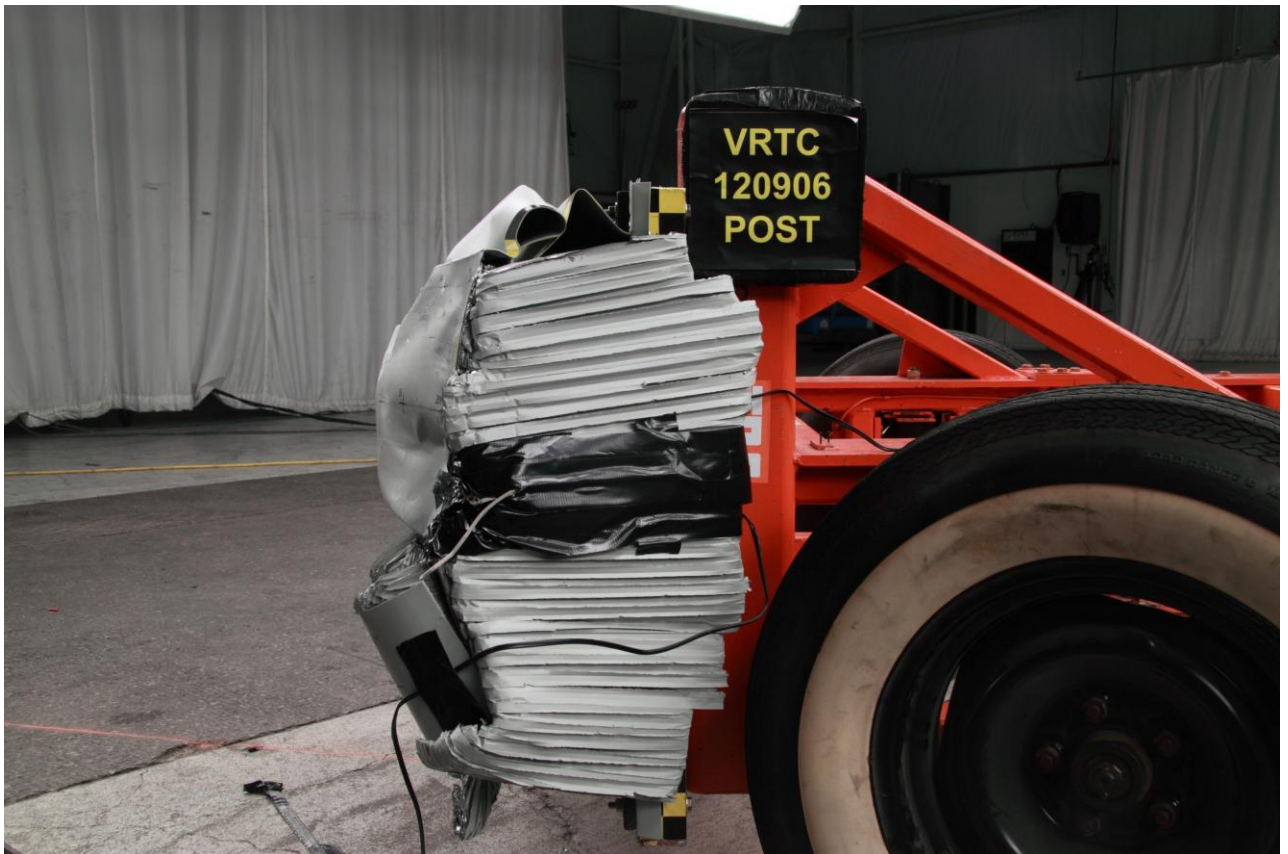


Figure A-47 Post-Test MDB Face Left Side View



Figure A-48 Post-Test MDB Face Right Side View



Figure A-49 Vehicle Certification Label



Figure A-50 Tire Pressure Label

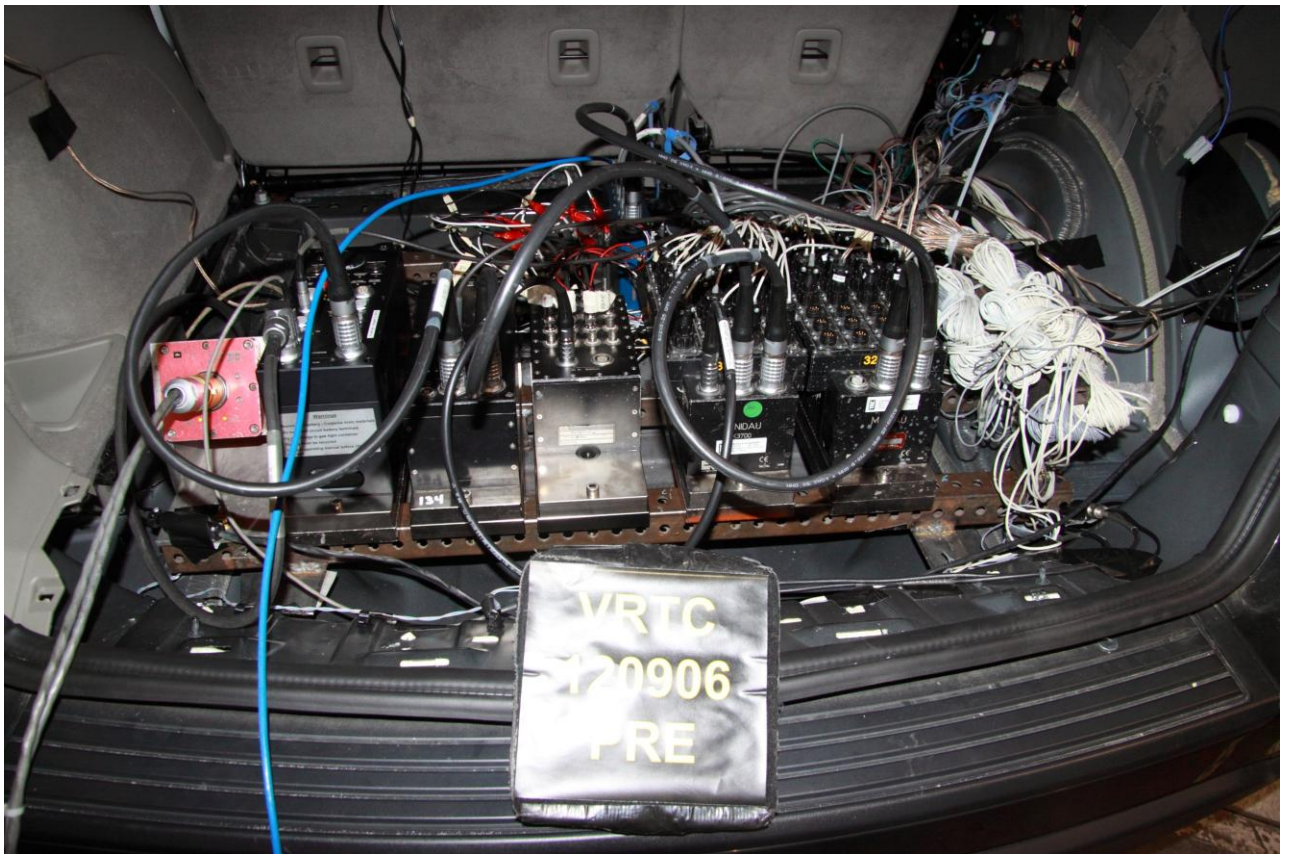


Figure A-51 Pre-Test Instrumentation Location View

Appendix B

Data Plots



FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Longitudinal Ax

Date: 06/17/2013

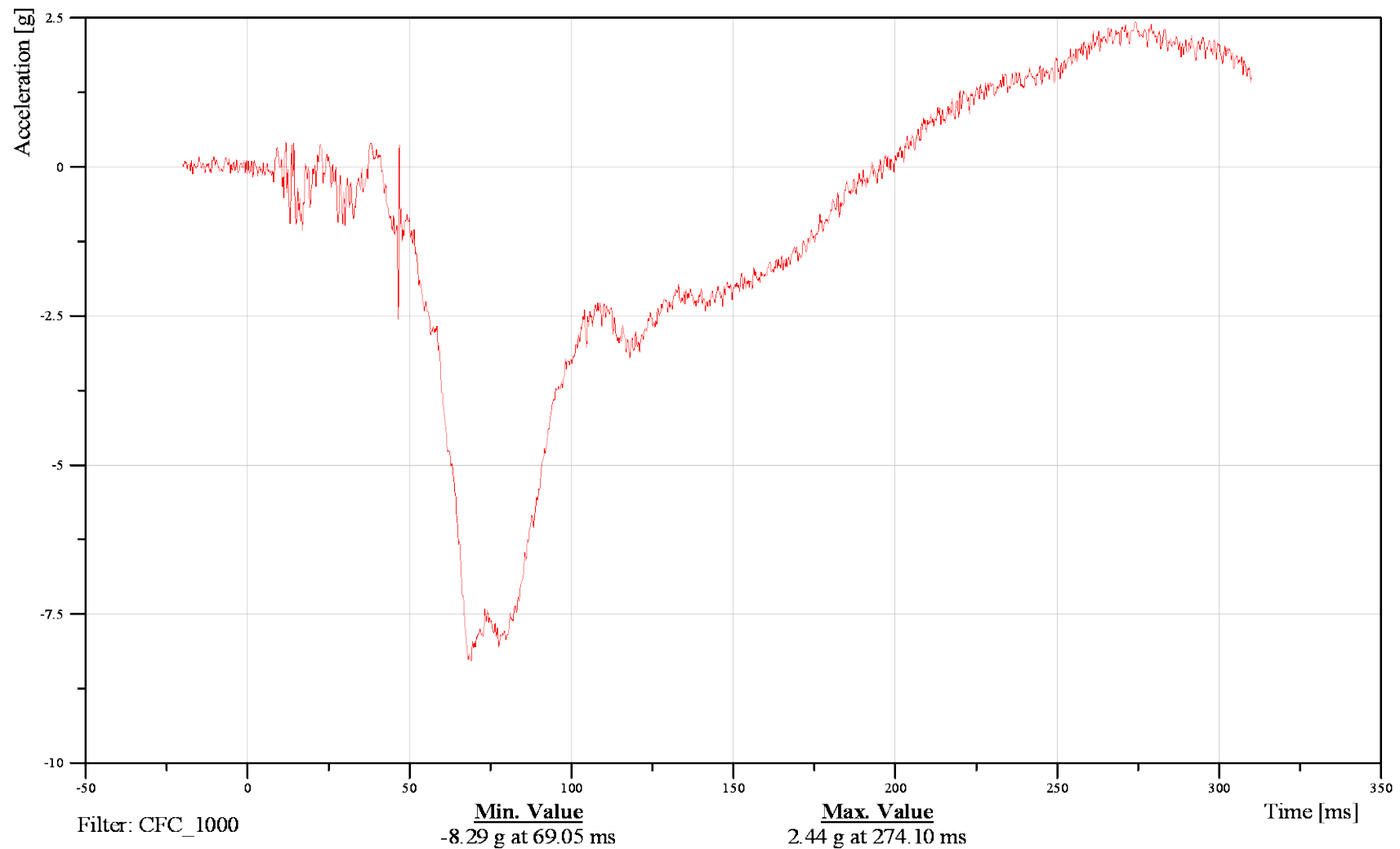
Time: 08:43

Customer: VRTC

11HEADCG00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Lateral Ay

Date: 06/17/2013

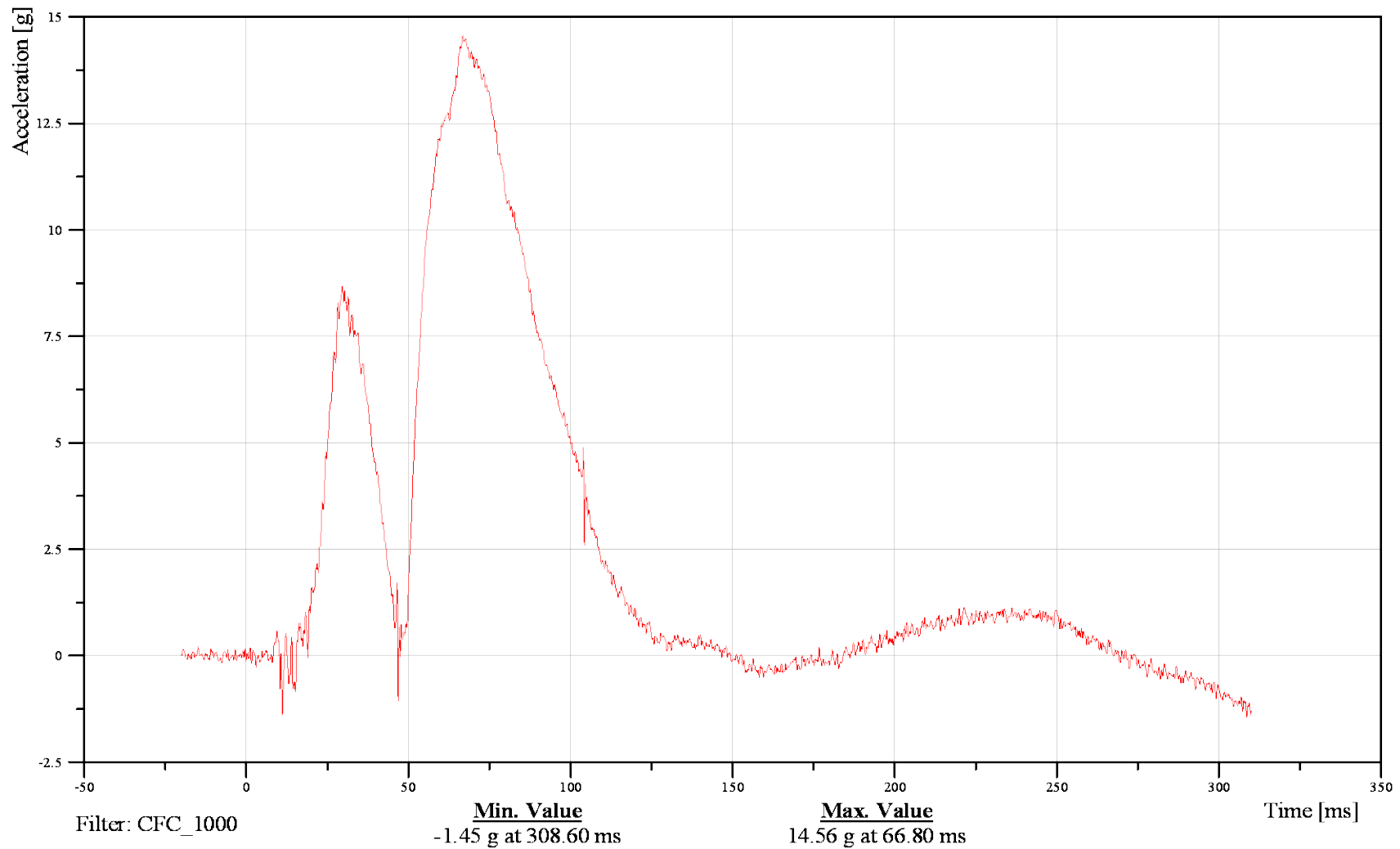
Time: 08:43

Customer: VRTC

11HEADCG00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Vertical Az

Date: 06/17/2013

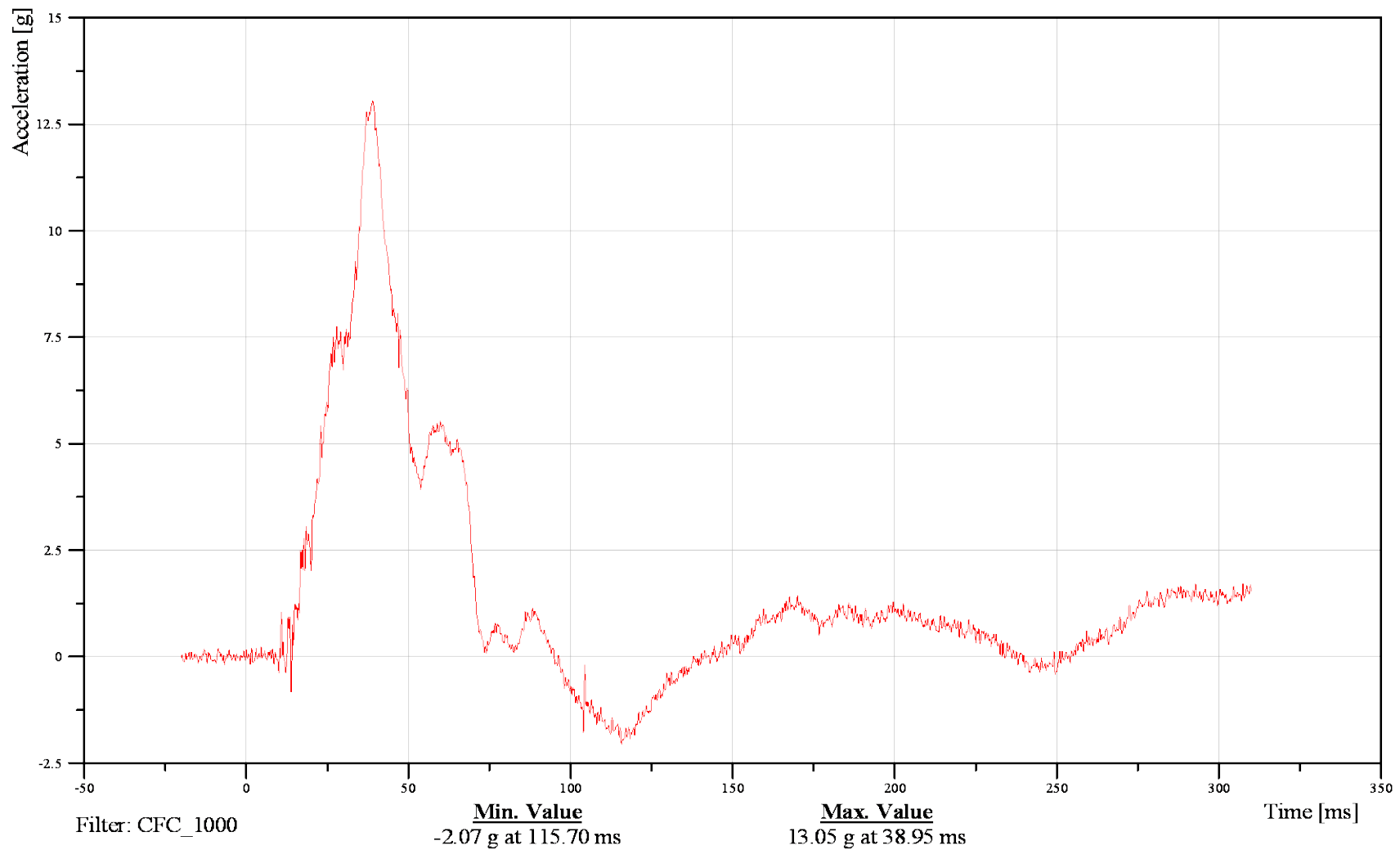
Time: 08:43

Customer: VRTC

11HEADCG00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head A Resultant

Date: 06/17/2013

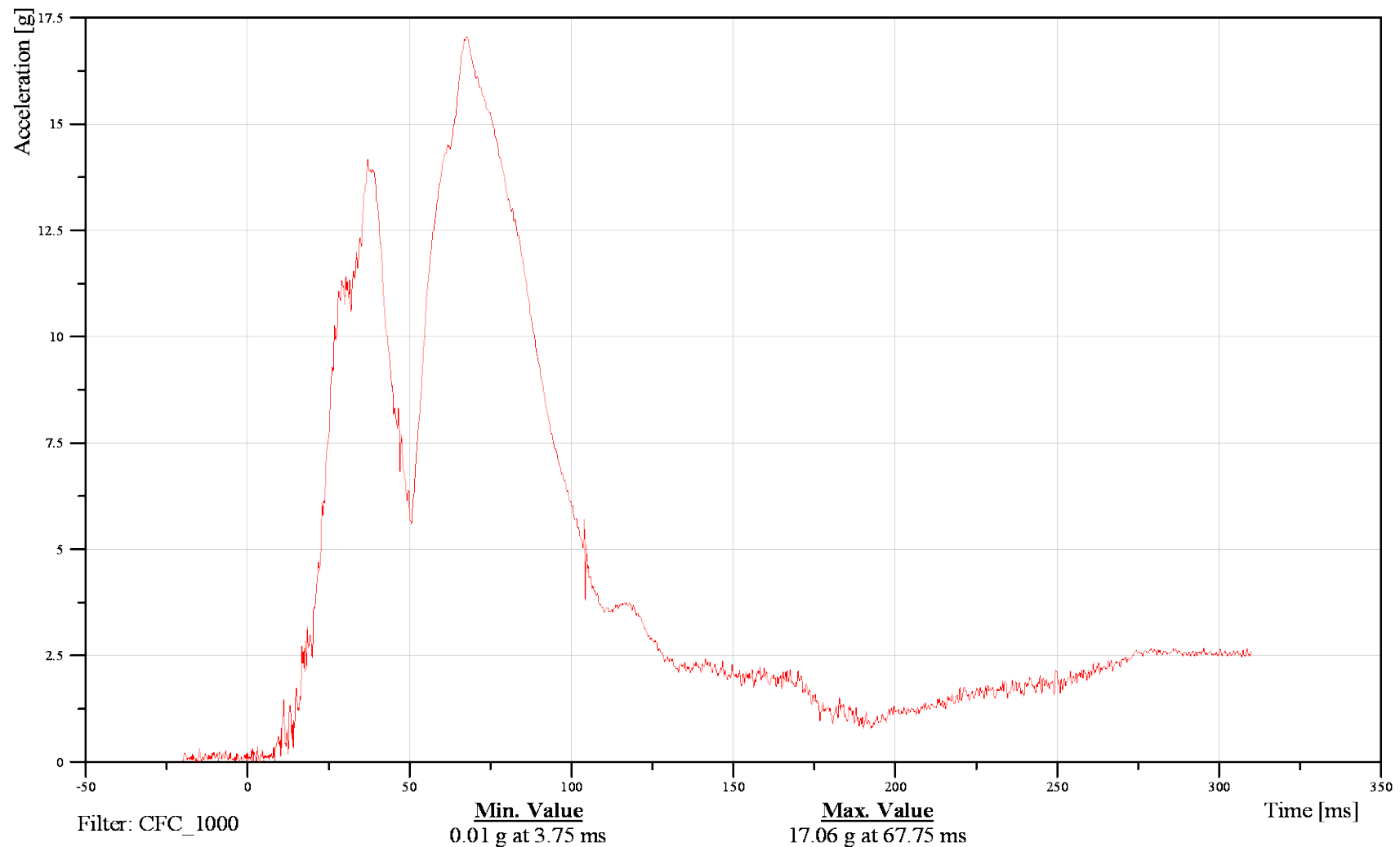
Time: 08:43

Customer: VRTC

11HEADCG00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Rotational Acceleration Rx

Date: 06/17/2013

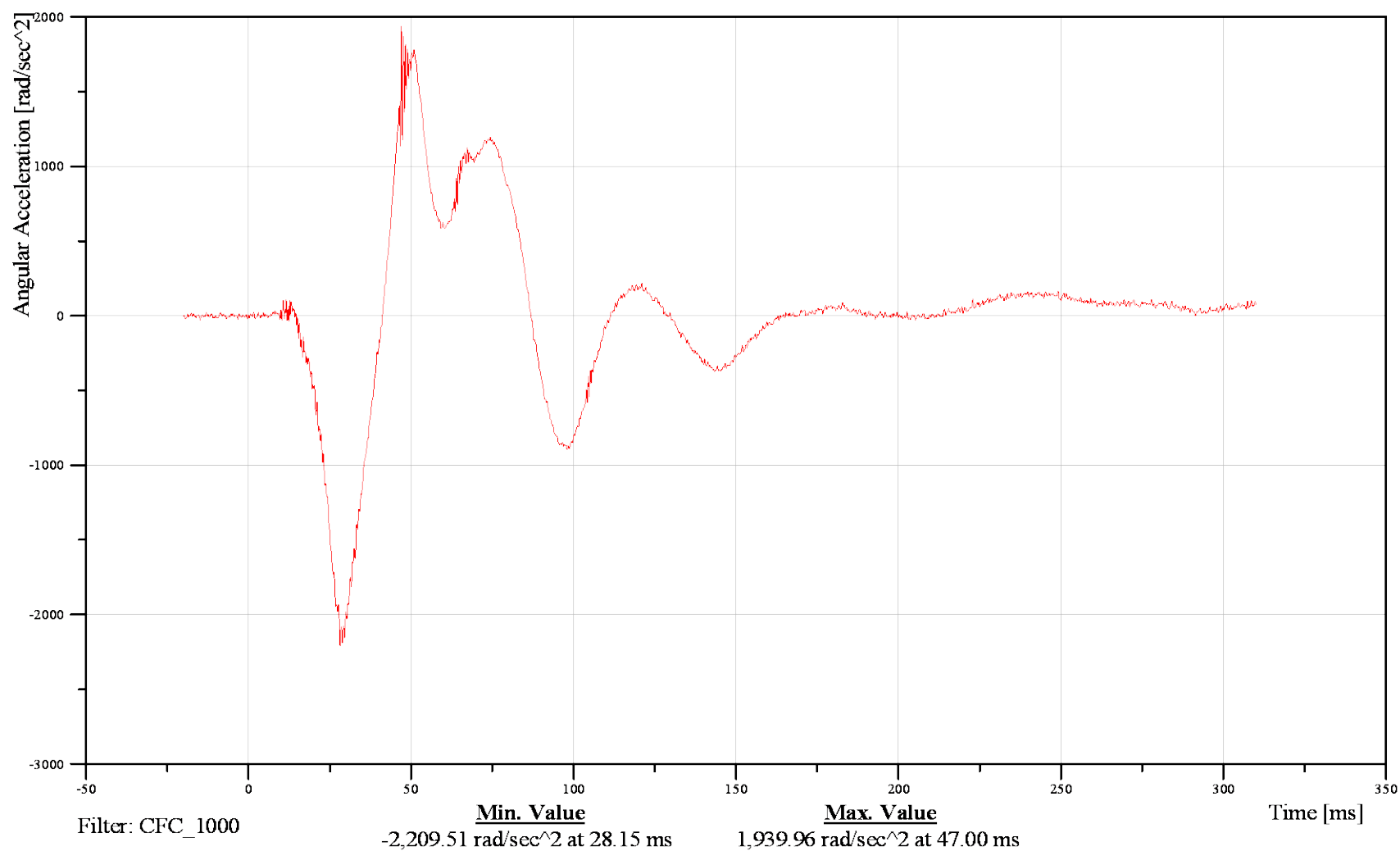
Time: 08:43

Customer: VRTC

11HEAD0000WSAAXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Rotational Acceleration Ry

Date: 06/17/2013

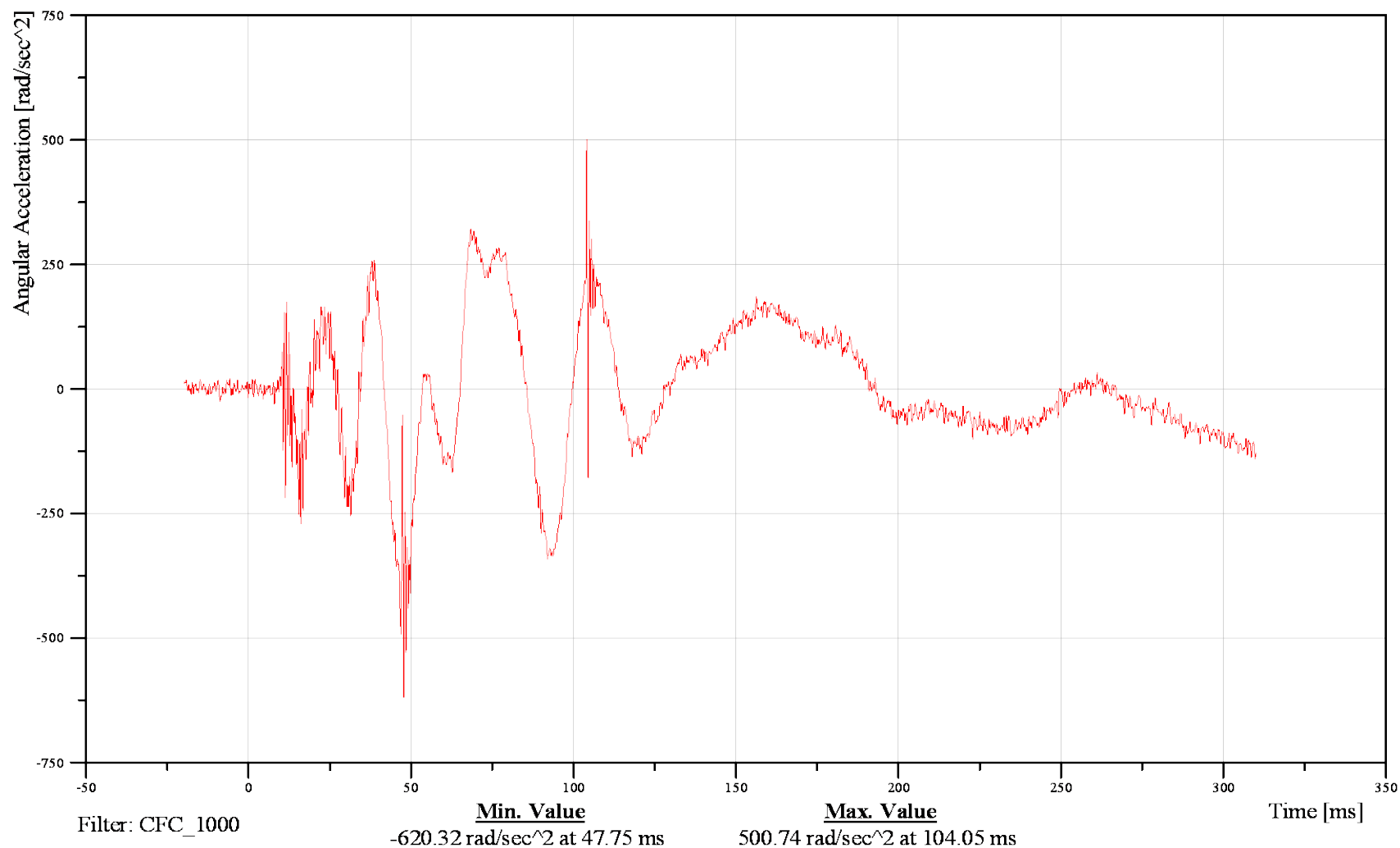
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Customer: VRTC

11HEAD0000WSAAYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Rotational Acceleration Rz

Date: 06/17/2013

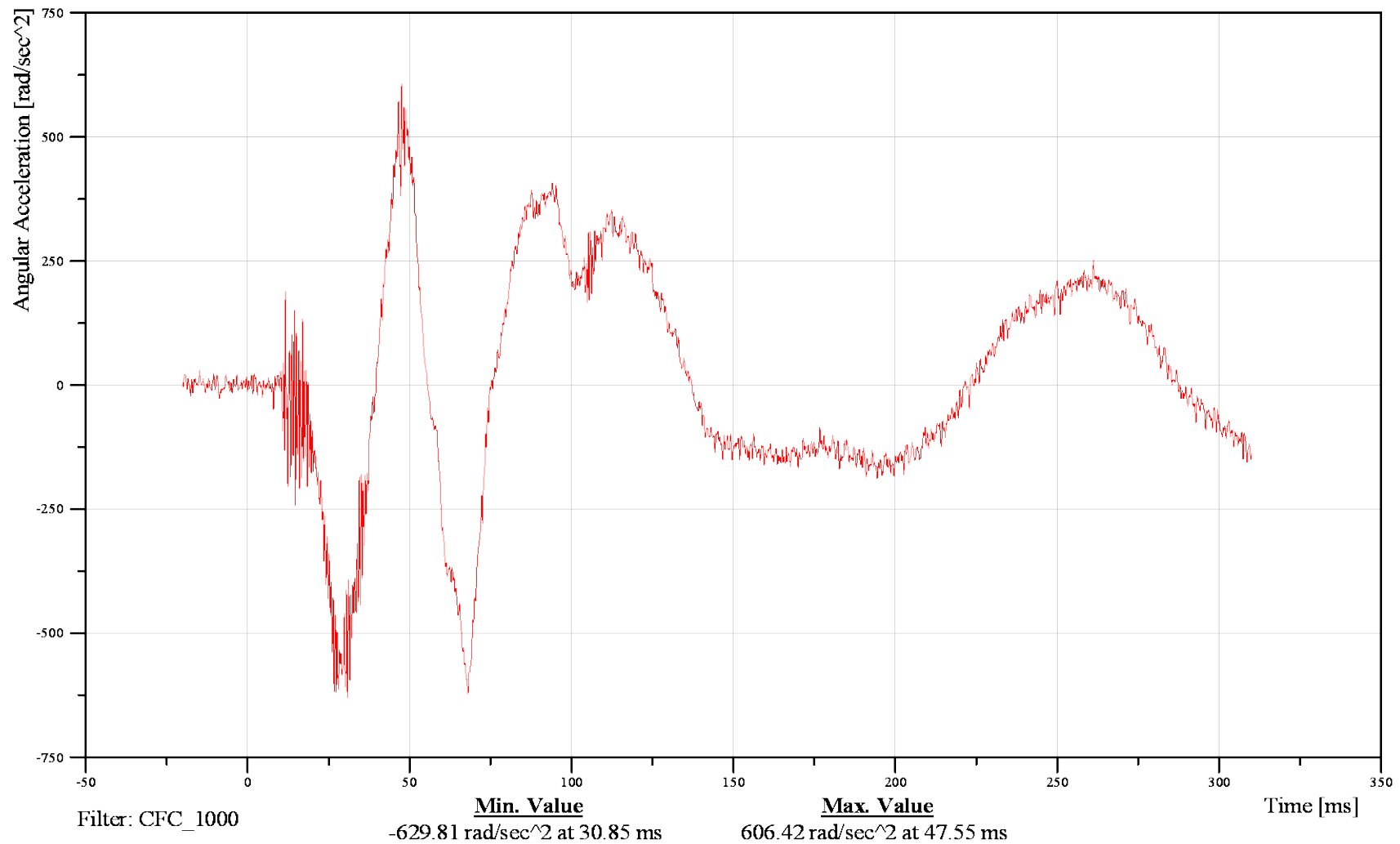
Time: 08:43

Customer: VRTC

11HEAD0000WSAAZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head X-Axis Angular Velocity

Date: 06/17/2013

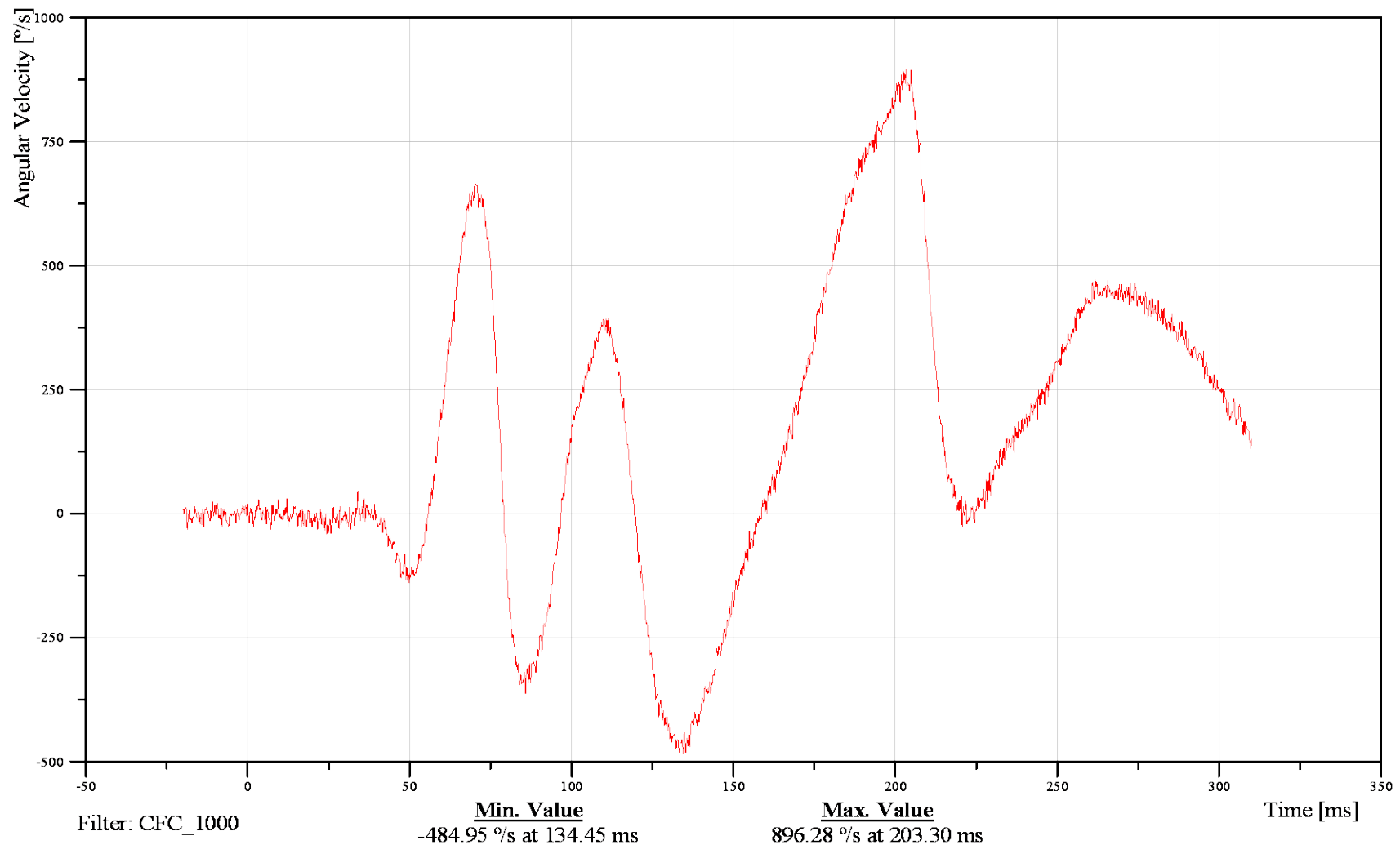
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Y-Axis Angular Velocity

Date: 06/17/2013

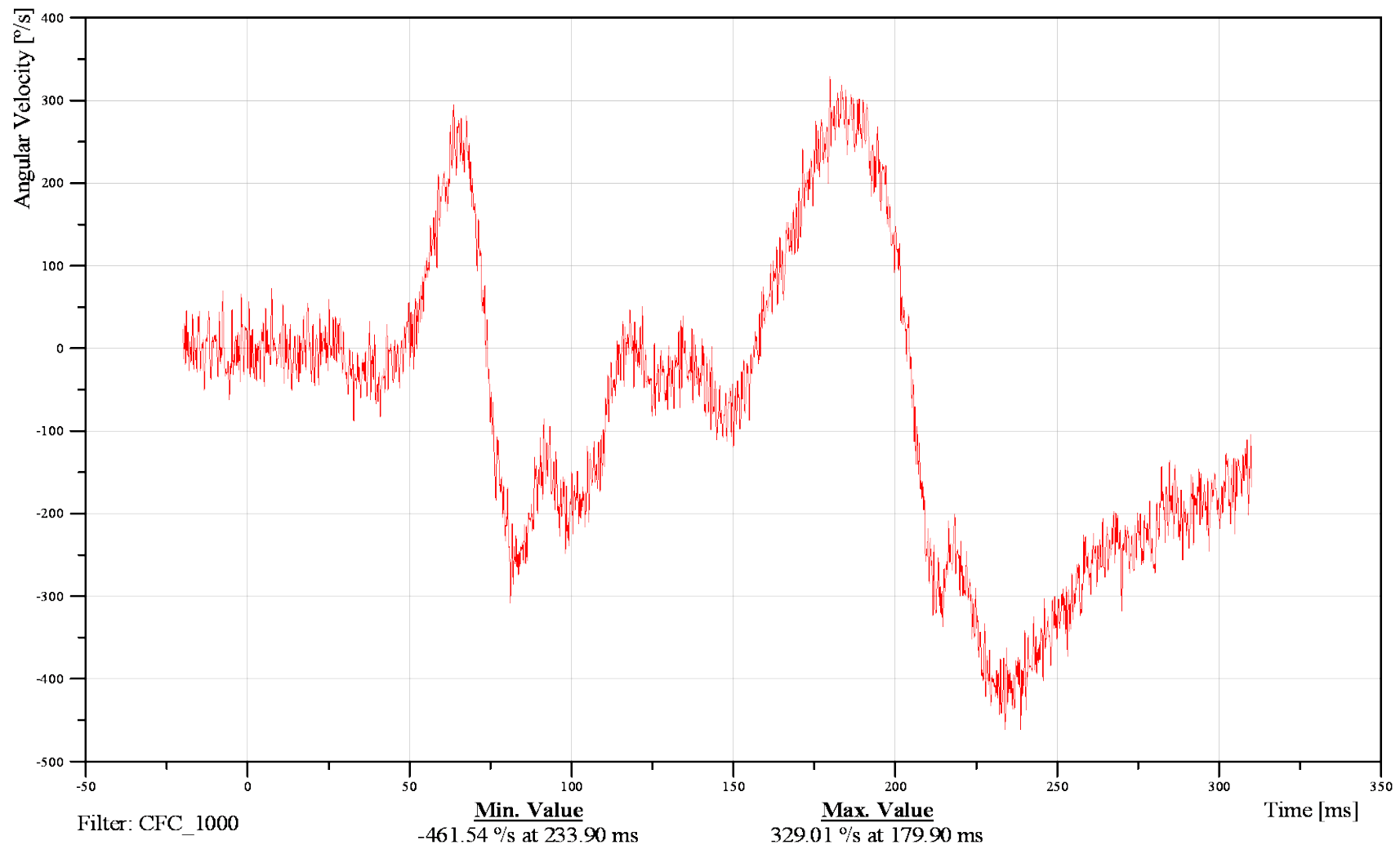
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Z-Axis Angular Velocity

Date: 06/17/2013

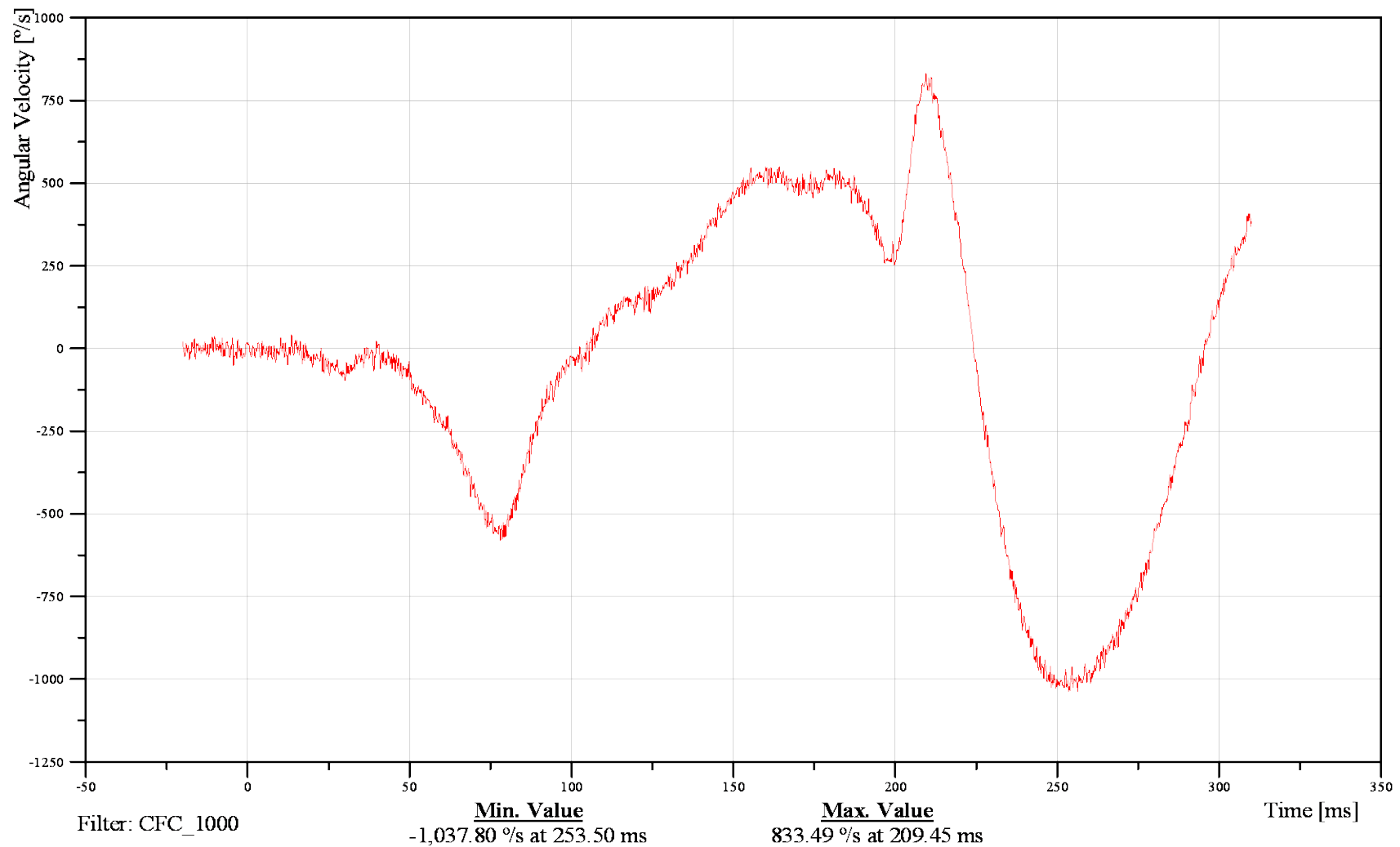
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Customer: VRTC

11HEADCG00WSAVZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Force Fx

Date: 06/17/2013

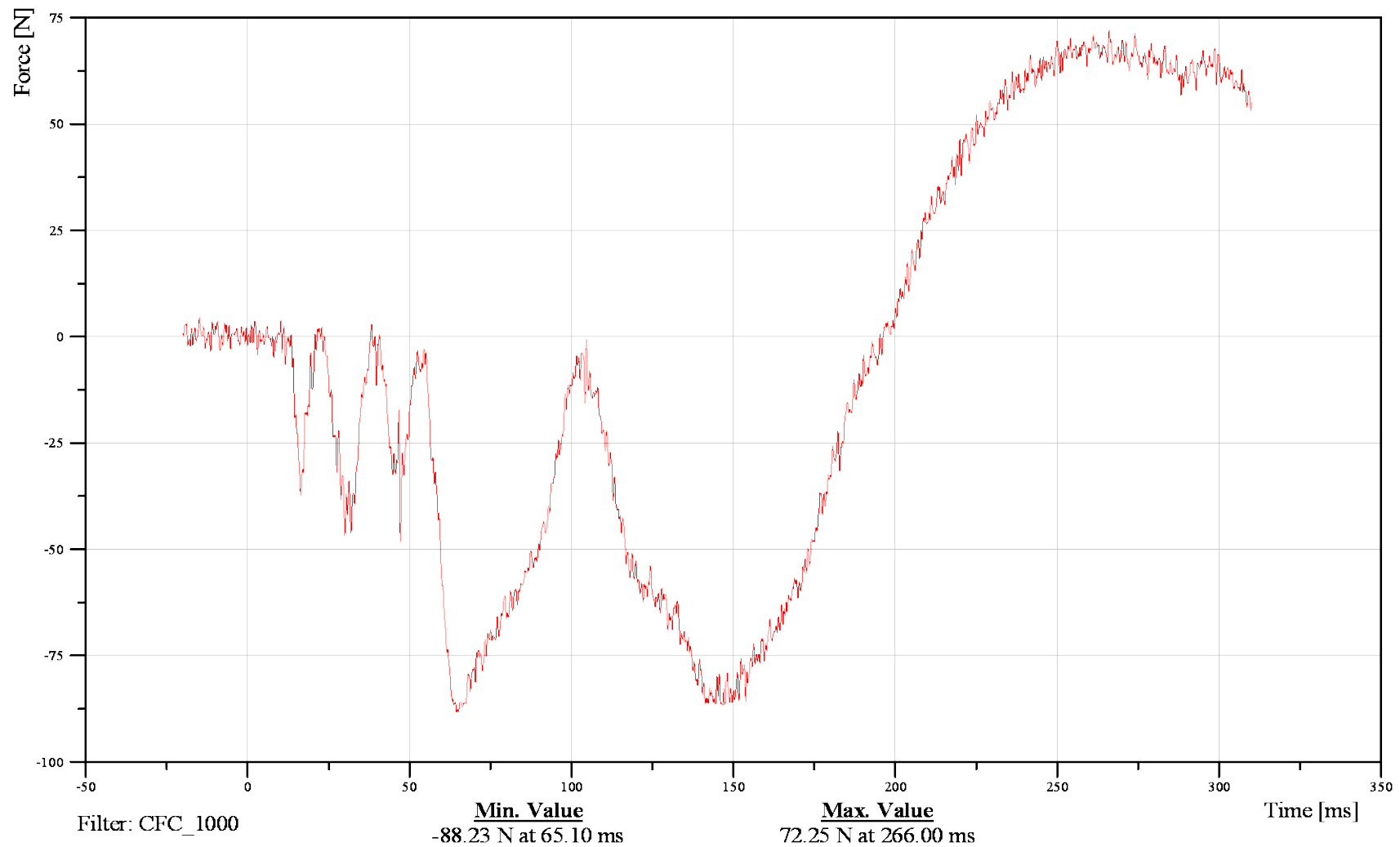
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Force Fy

Date: 06/17/2013

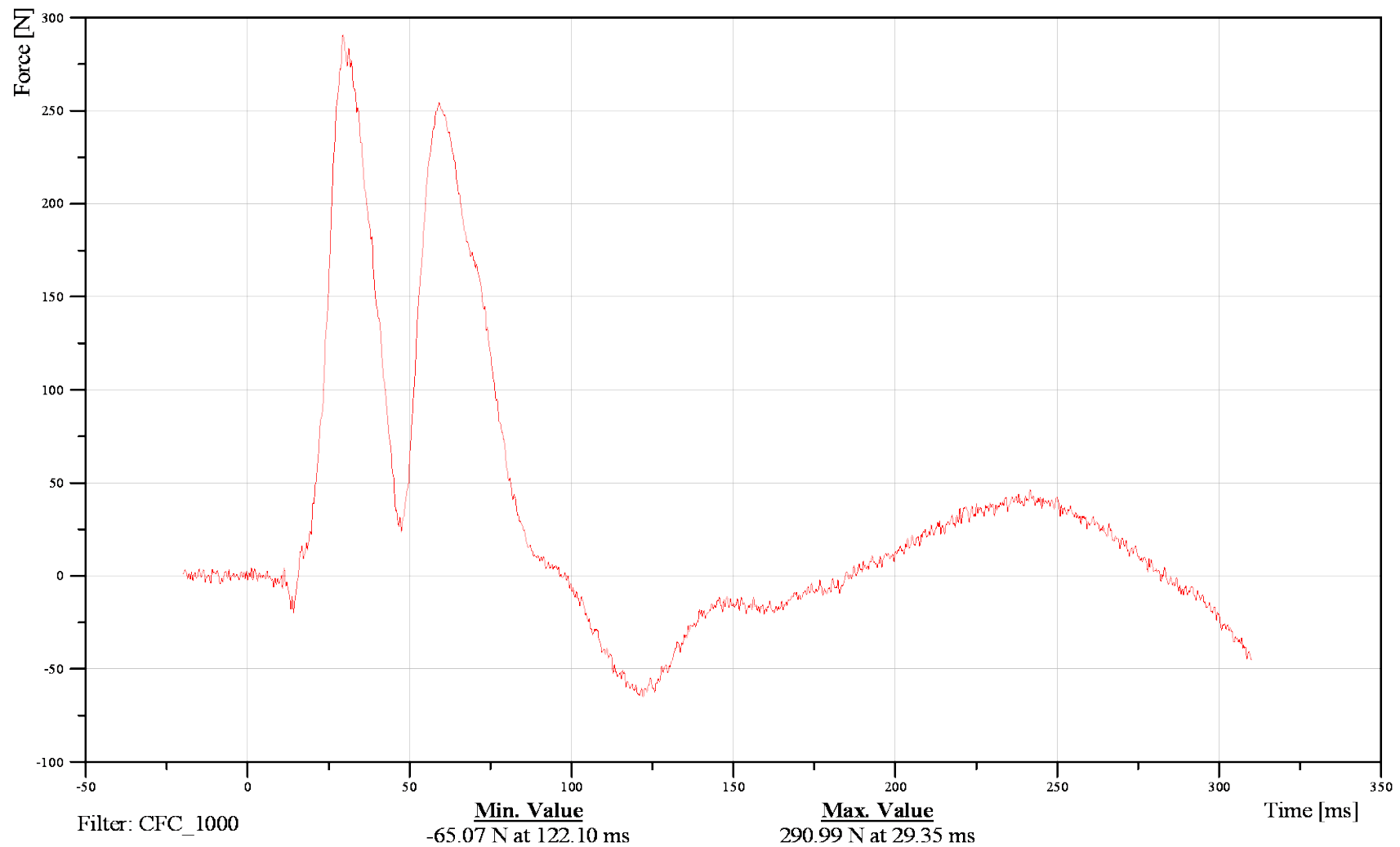
Time: 08:43

Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Force Fz

Date: 06/17/2013

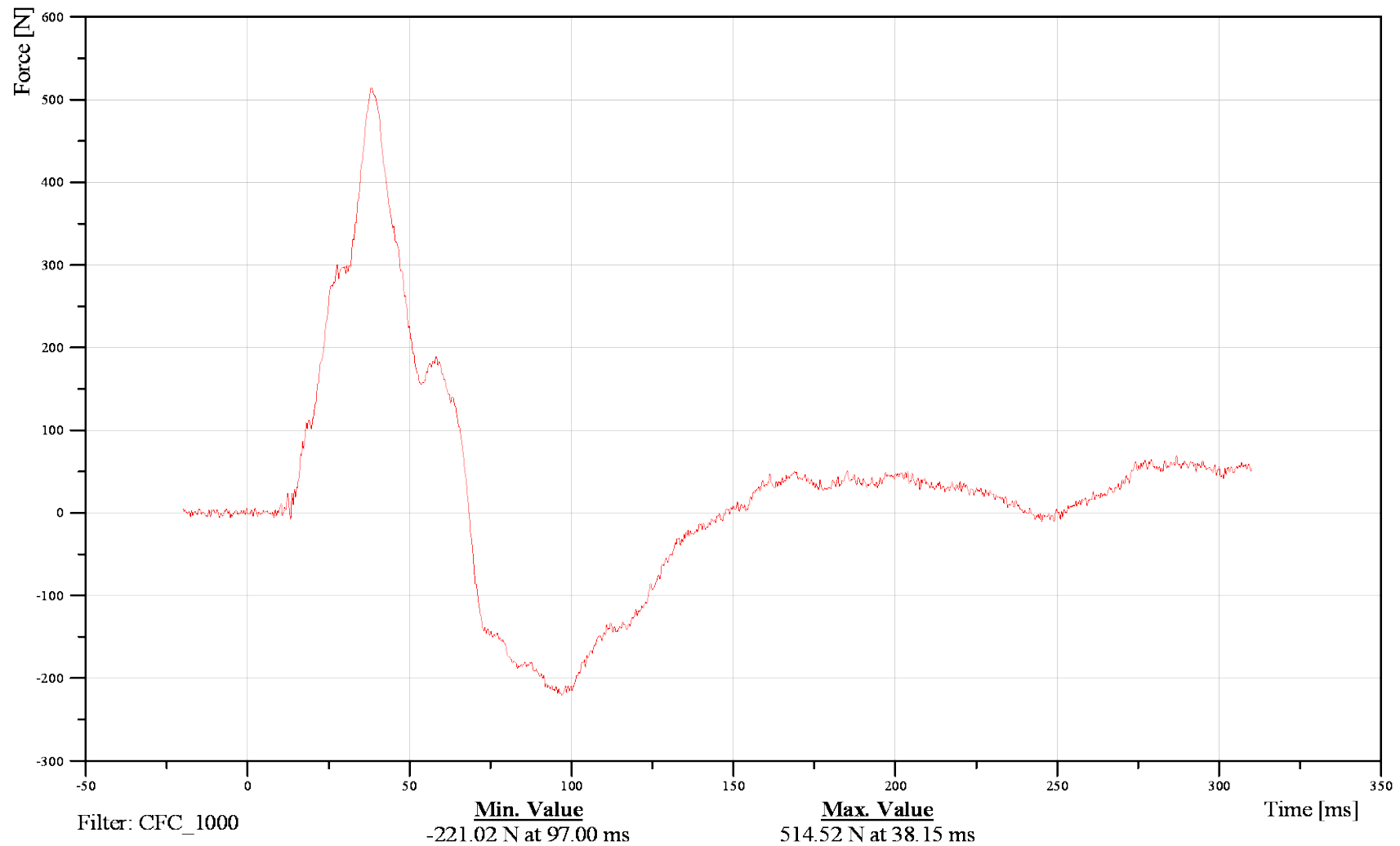
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Moment Mx

Date: 06/17/2013

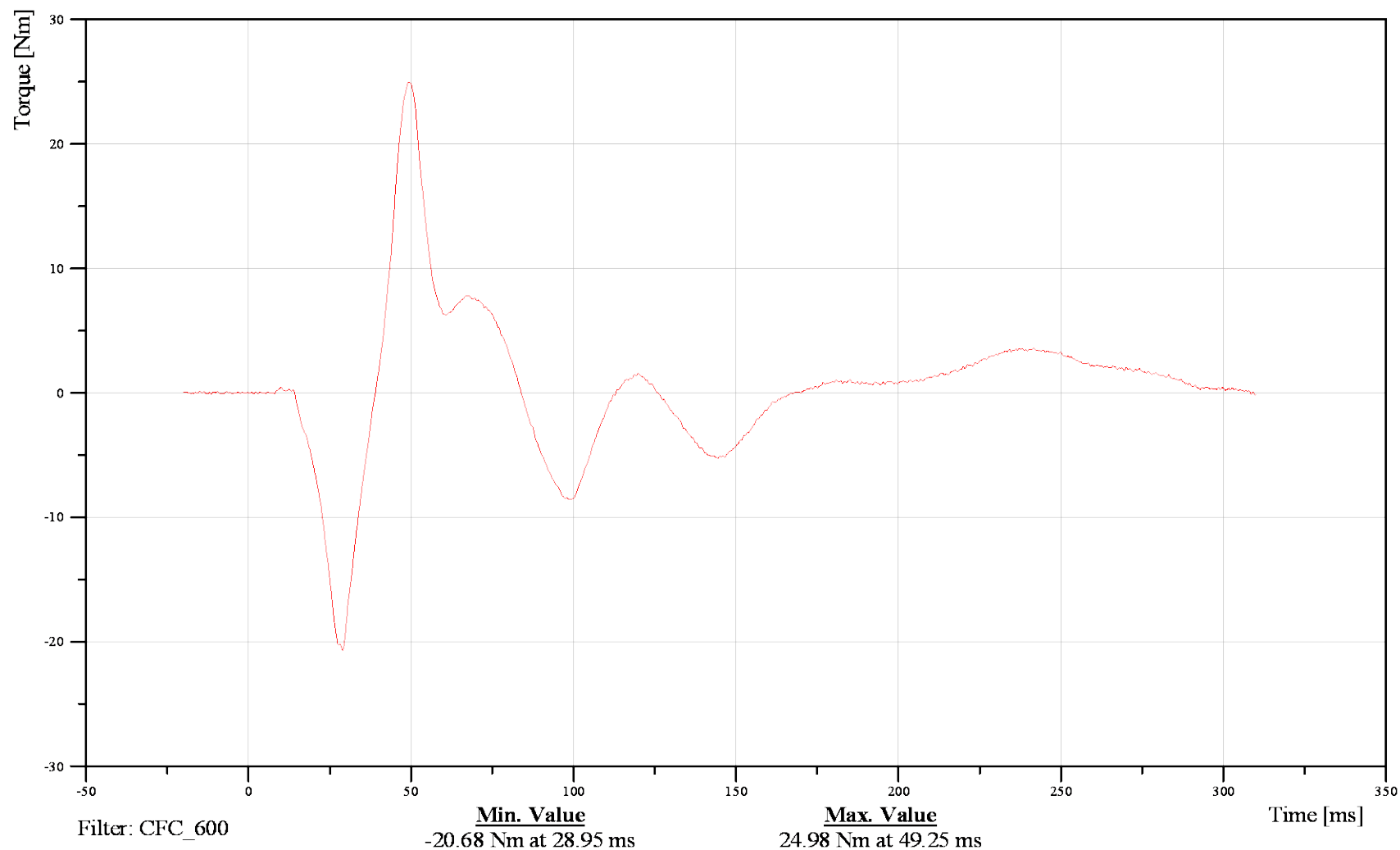
Time: 08:43

Customer: VRTC

11NECKUP00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Moment My

Date: 06/17/2013

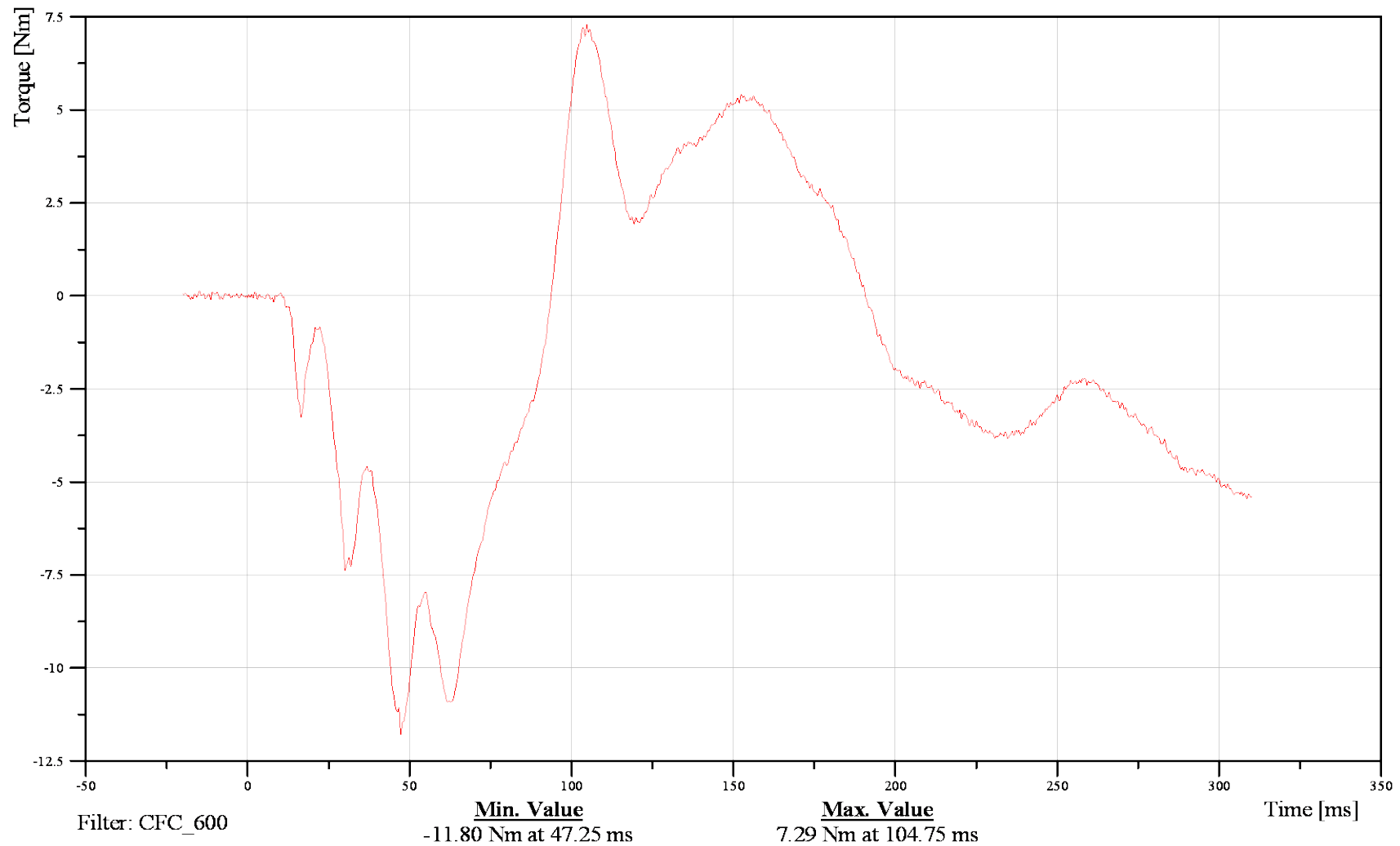
Time: 08:43

Customer: VRTC

11NECKUP00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Moment Mz

Date: 06/17/2013

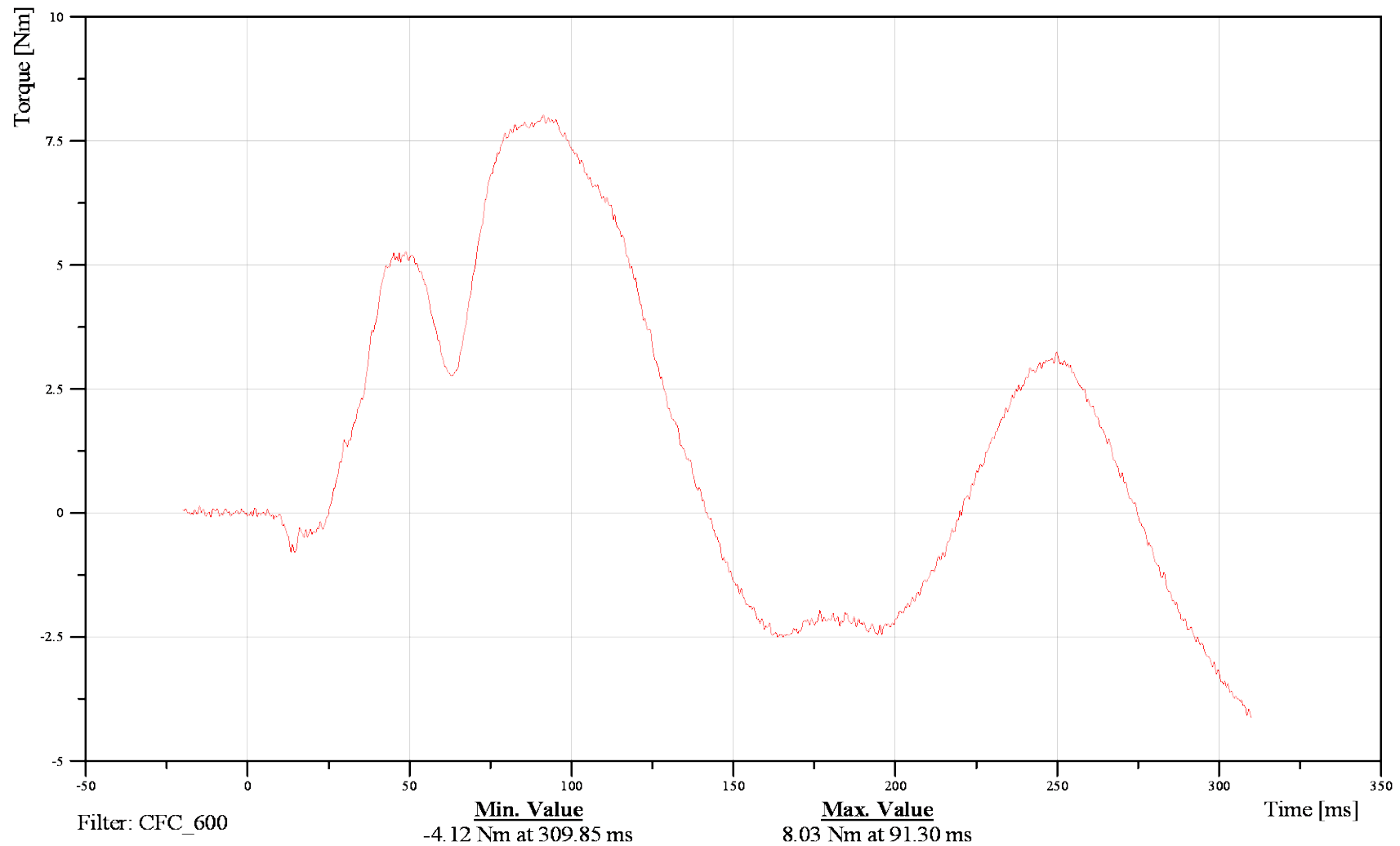
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Force Fx

Date: 06/17/2013

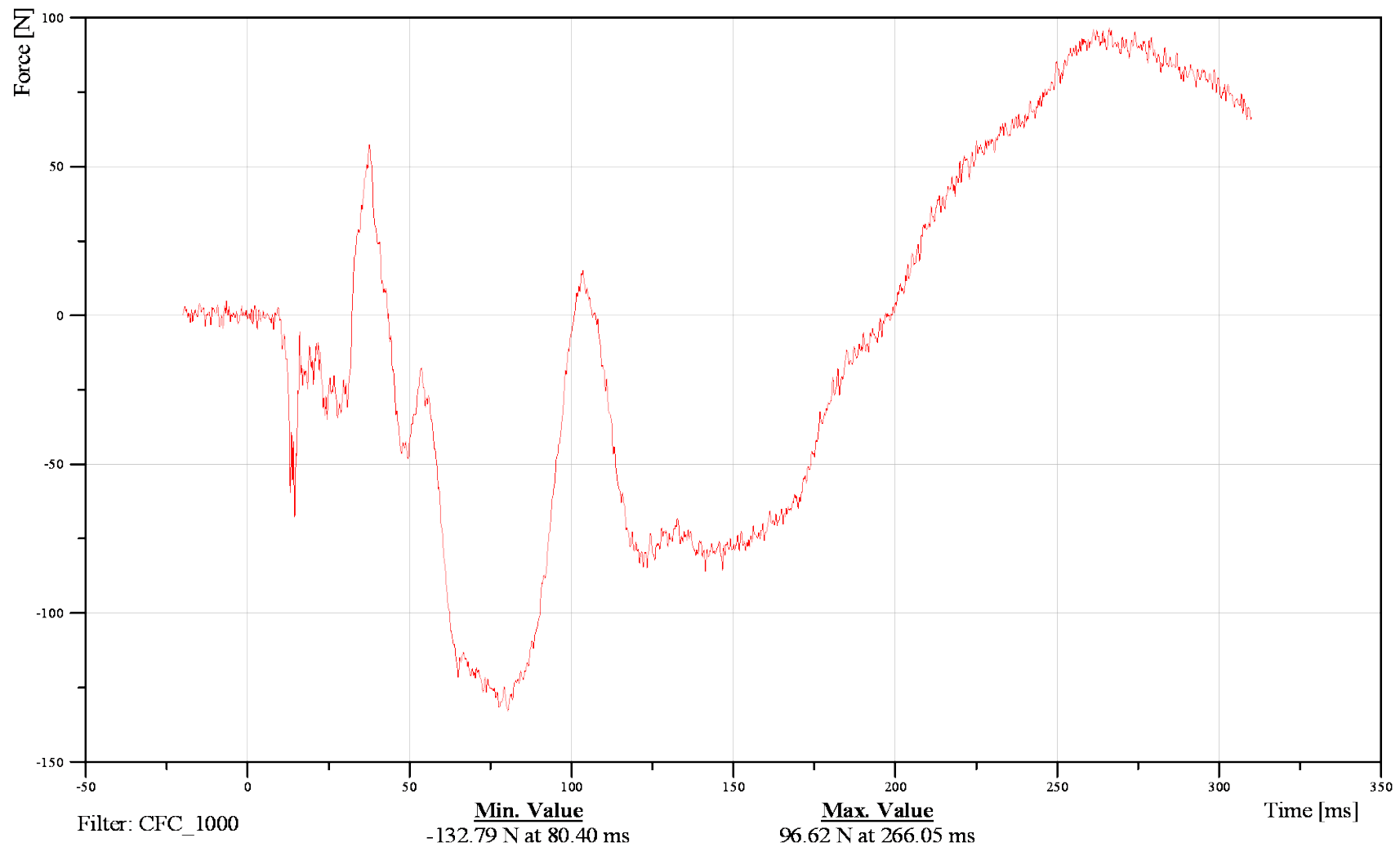
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Force Fy

Date: 06/17/2013

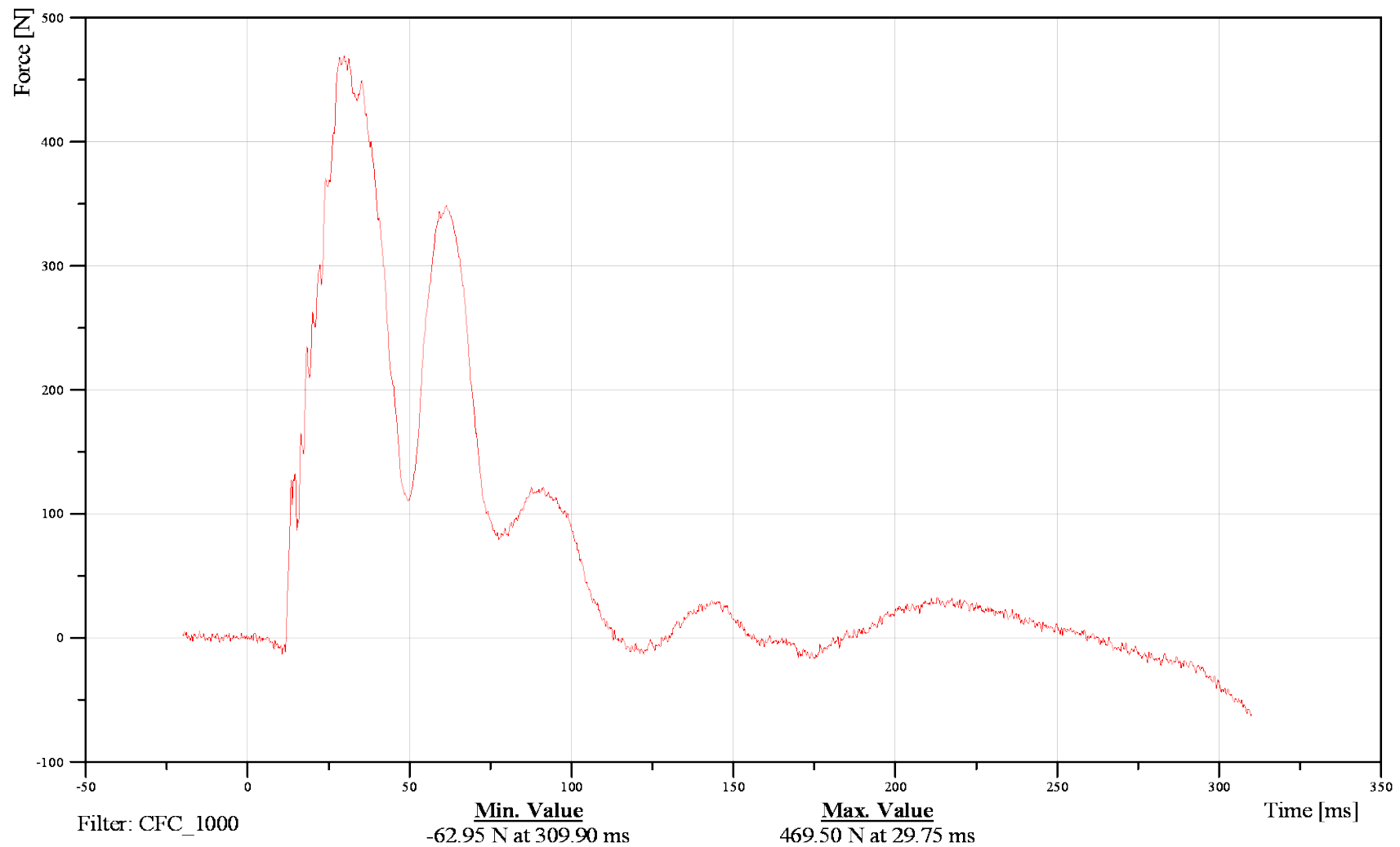
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Force Fz

Date: 06/17/2013

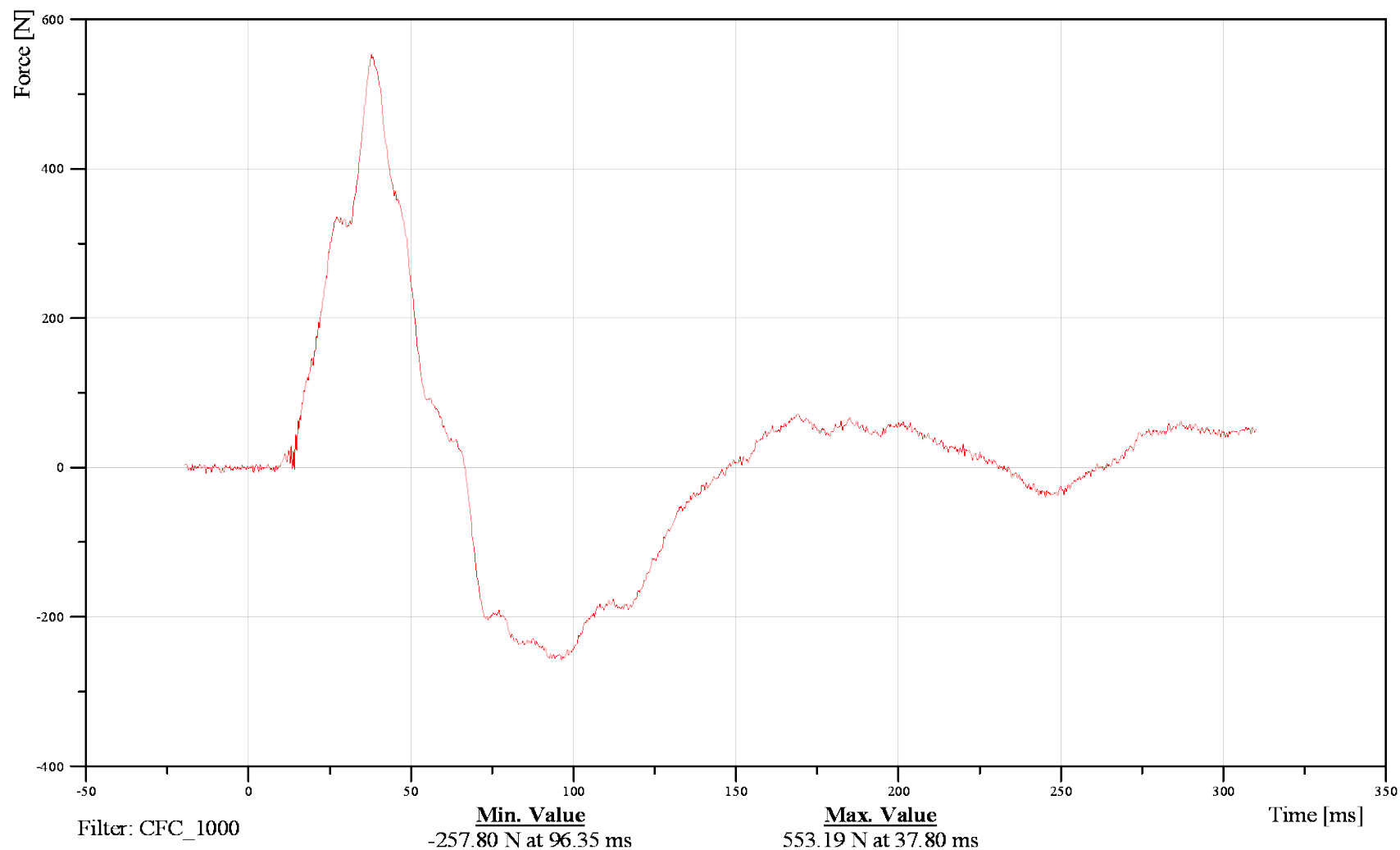
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Moment Mx

Date: 06/17/2013

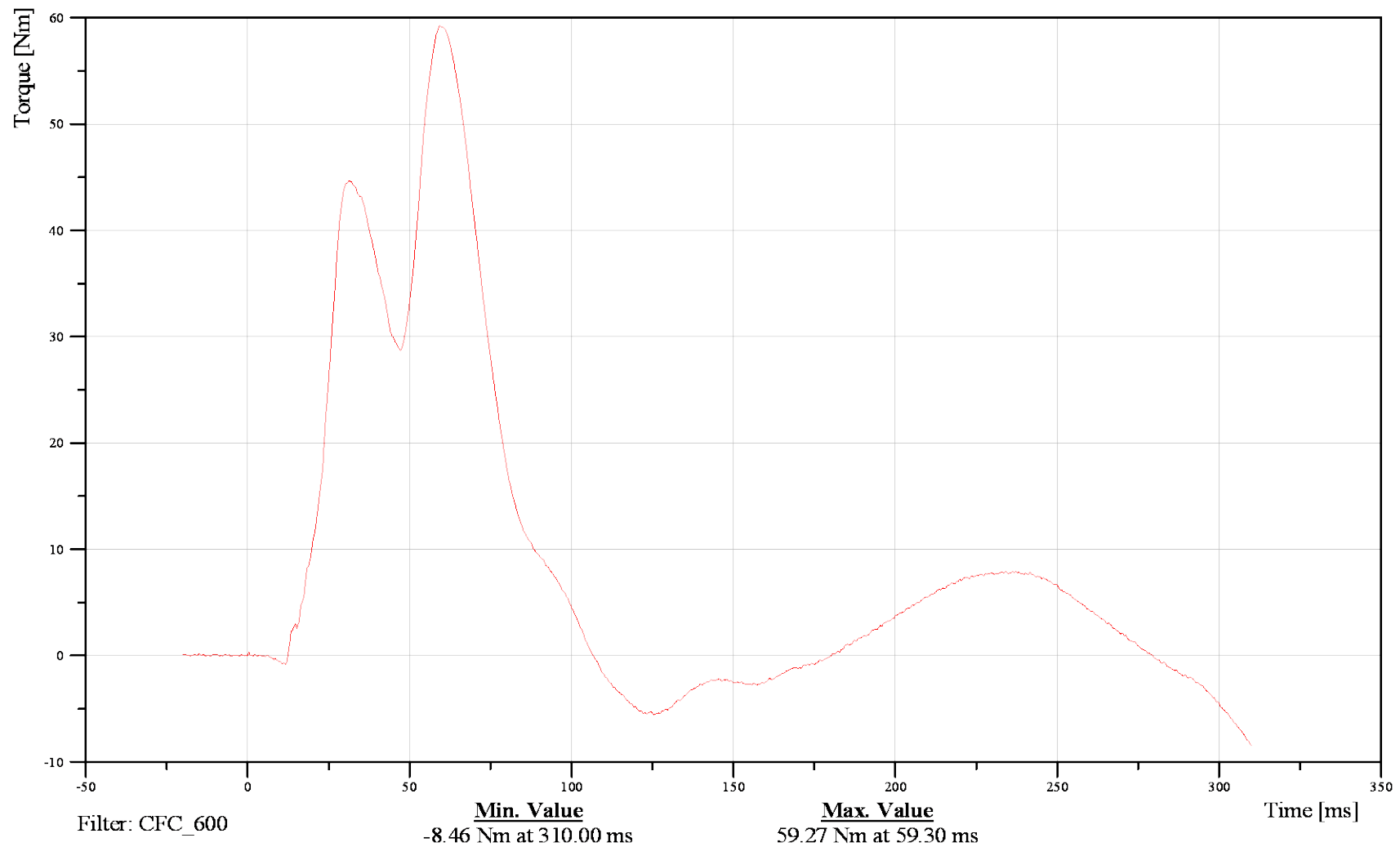
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Moment My

Date: 06/17/2013

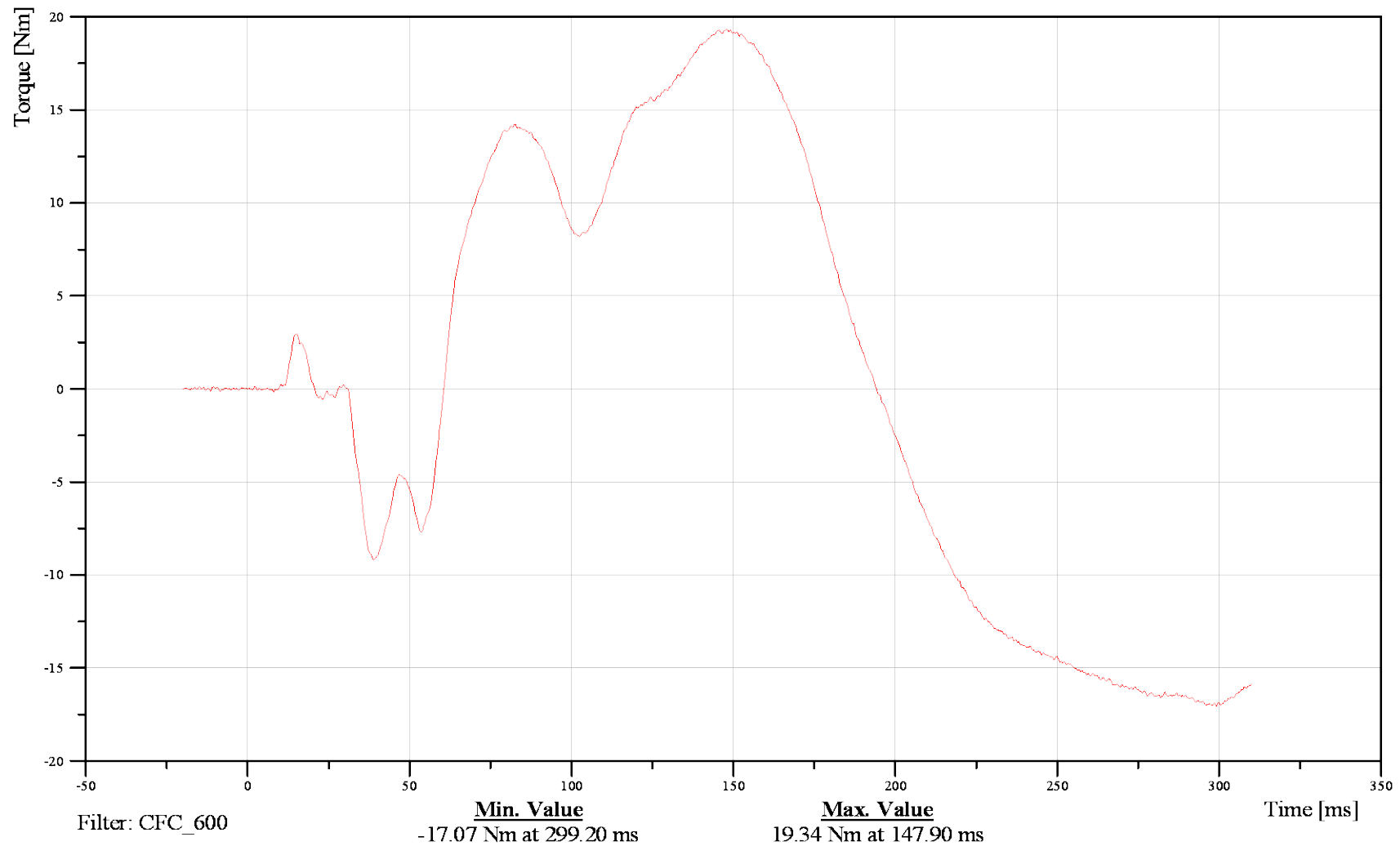
Time: 08:43

Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Moment Mz

Date: 06/17/2013

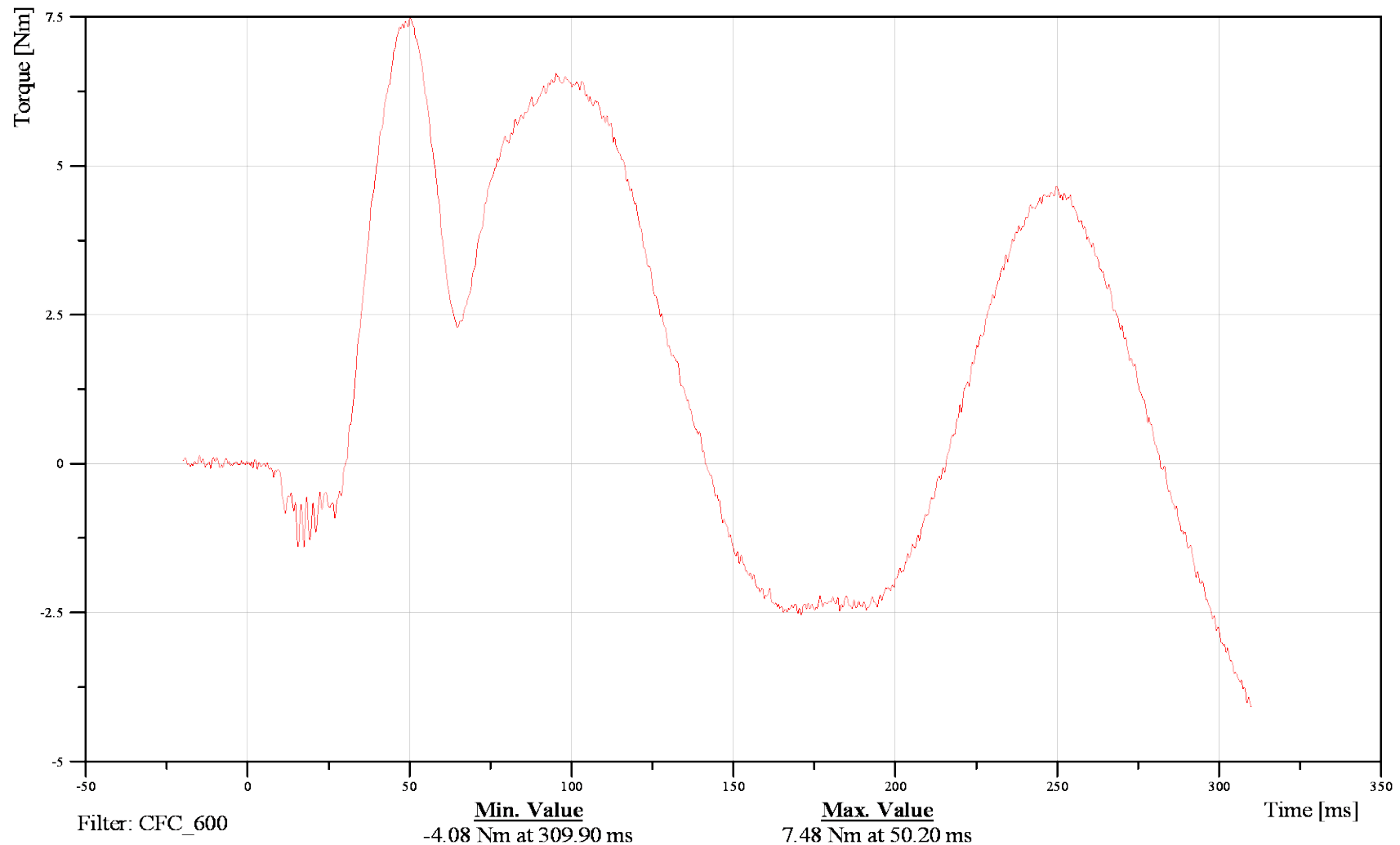
Time: 08:43

Customer: VRTC

11NECKLO00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Longitudinal Ax

Date: 06/17/2013

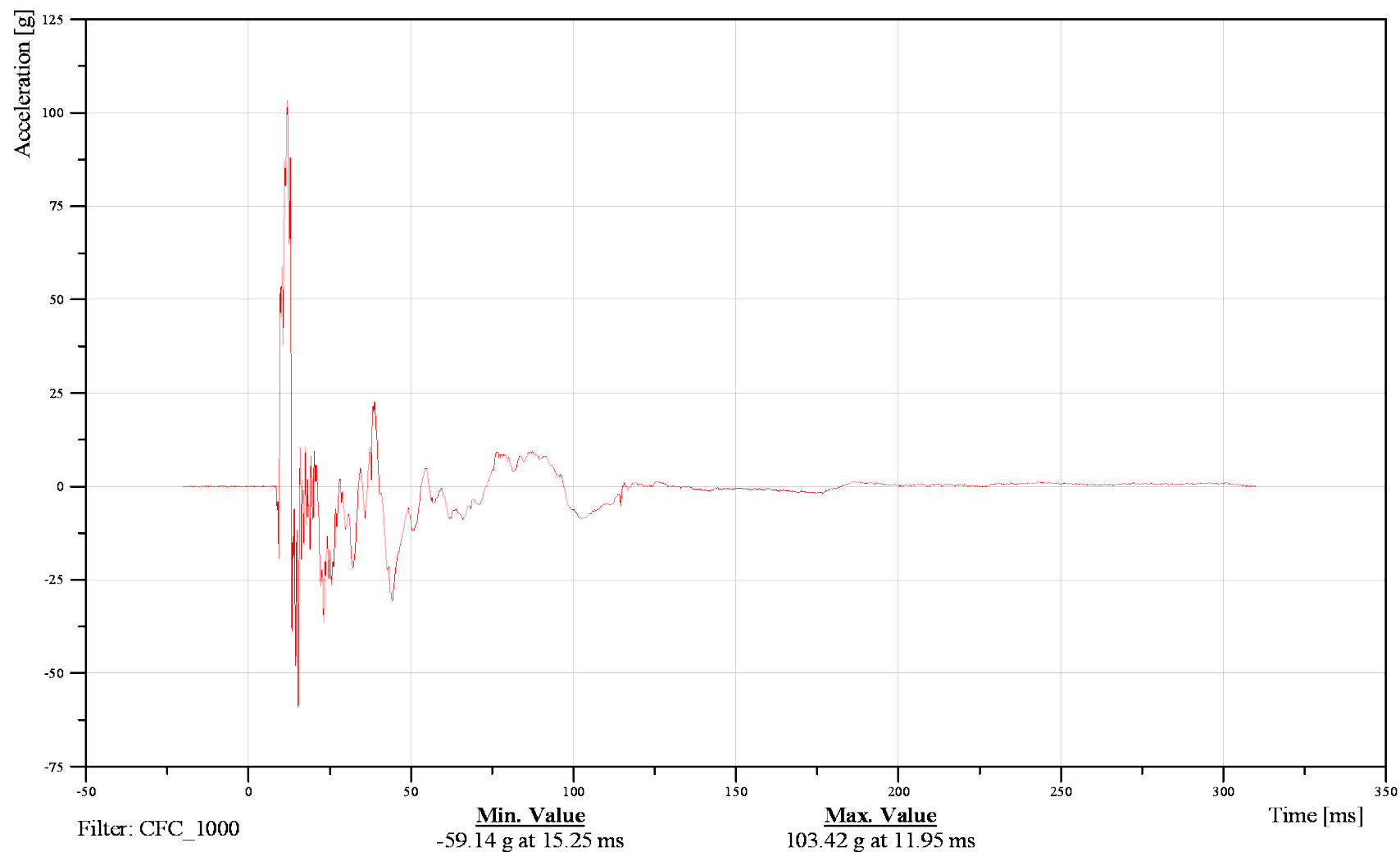
Time: 08:43

Customer: VRTC

11SHLDLE00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Lateral Ay

Date: 06/17/2013

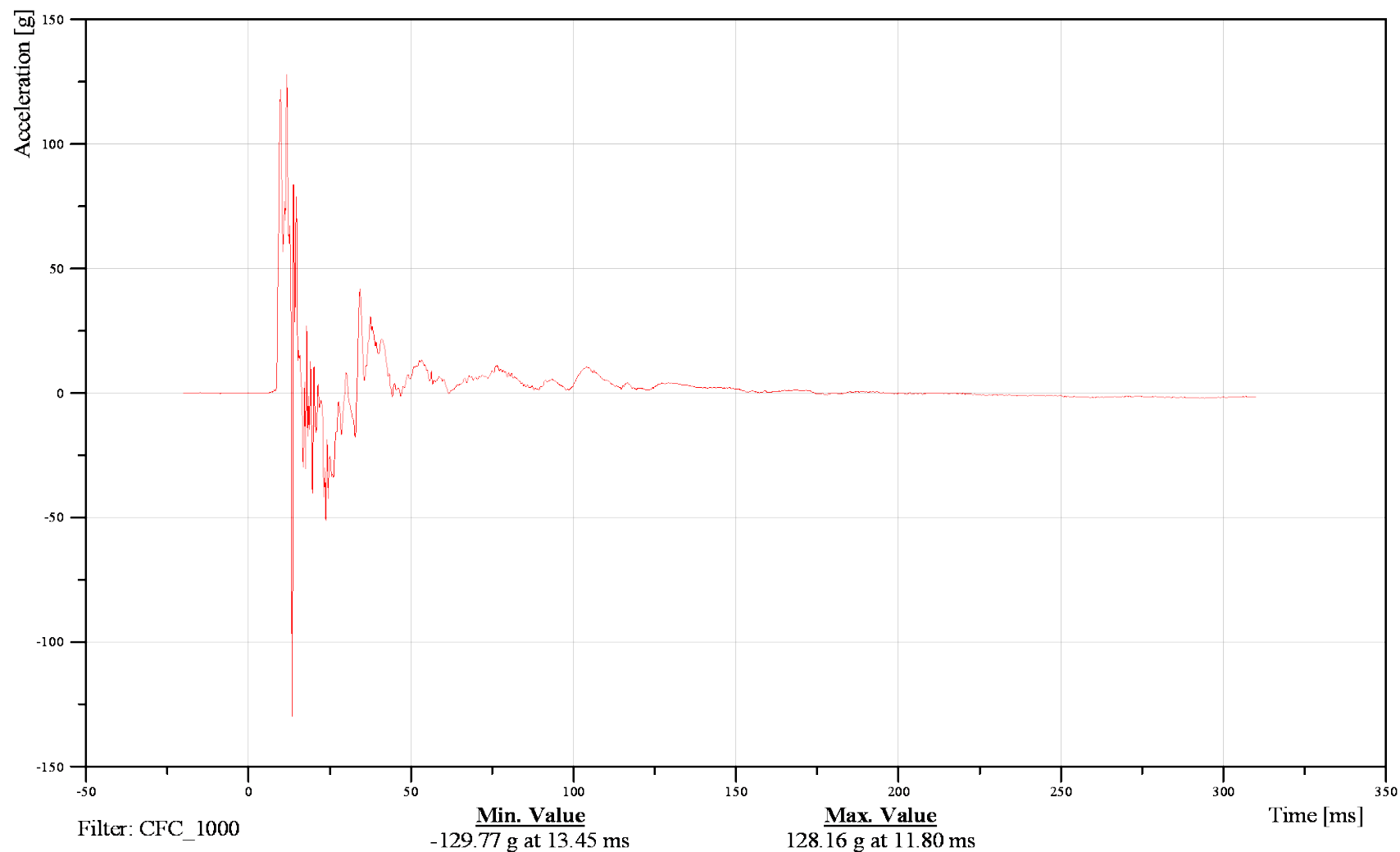
Time: 08:43

Customer: VRTC

11SHLDLE00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Vertical Az

Date: 06/17/2013

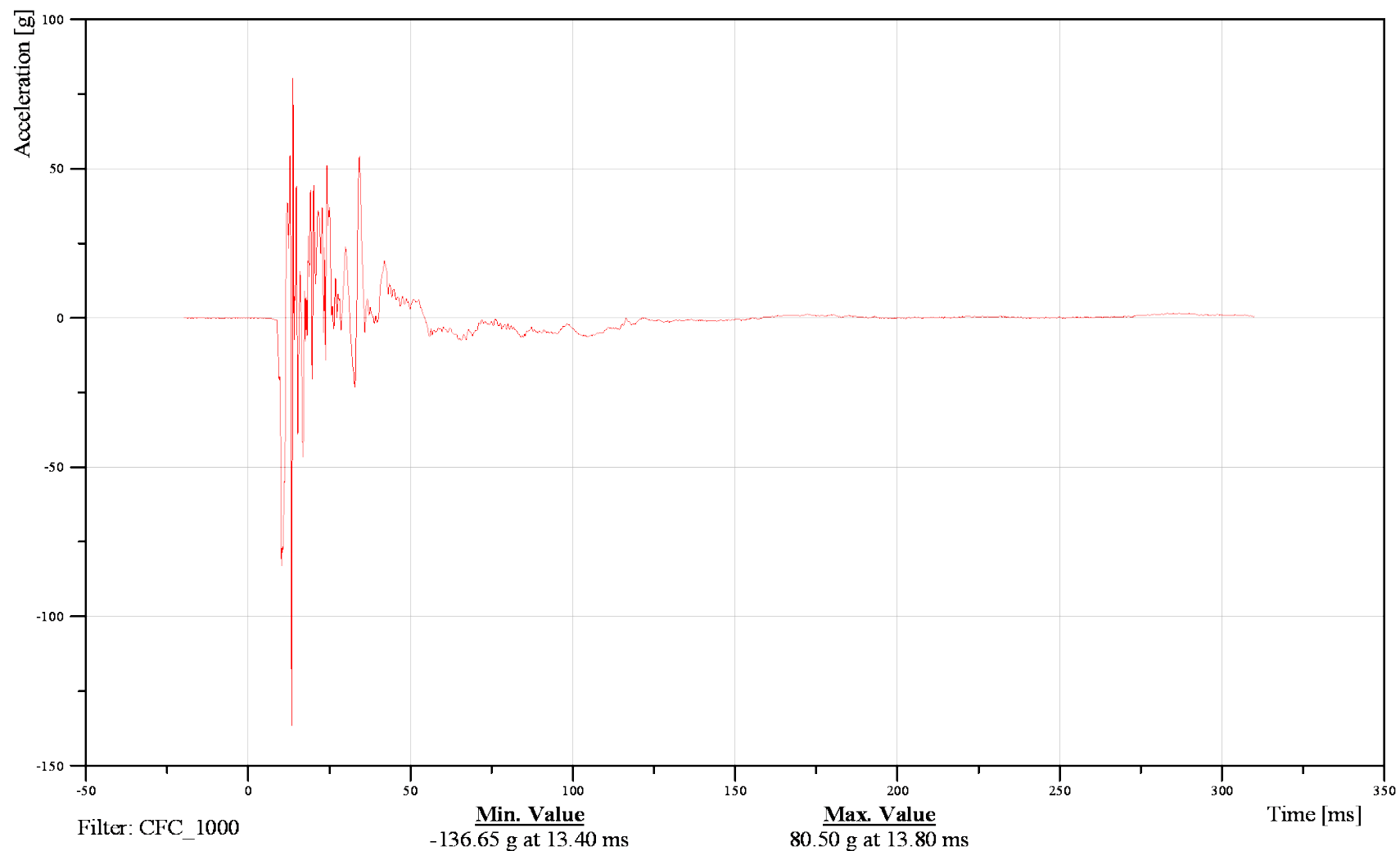
Time: 08:43

Customer: VRTC

11SHLDLE00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder A Resultant

Date: 06/17/2013

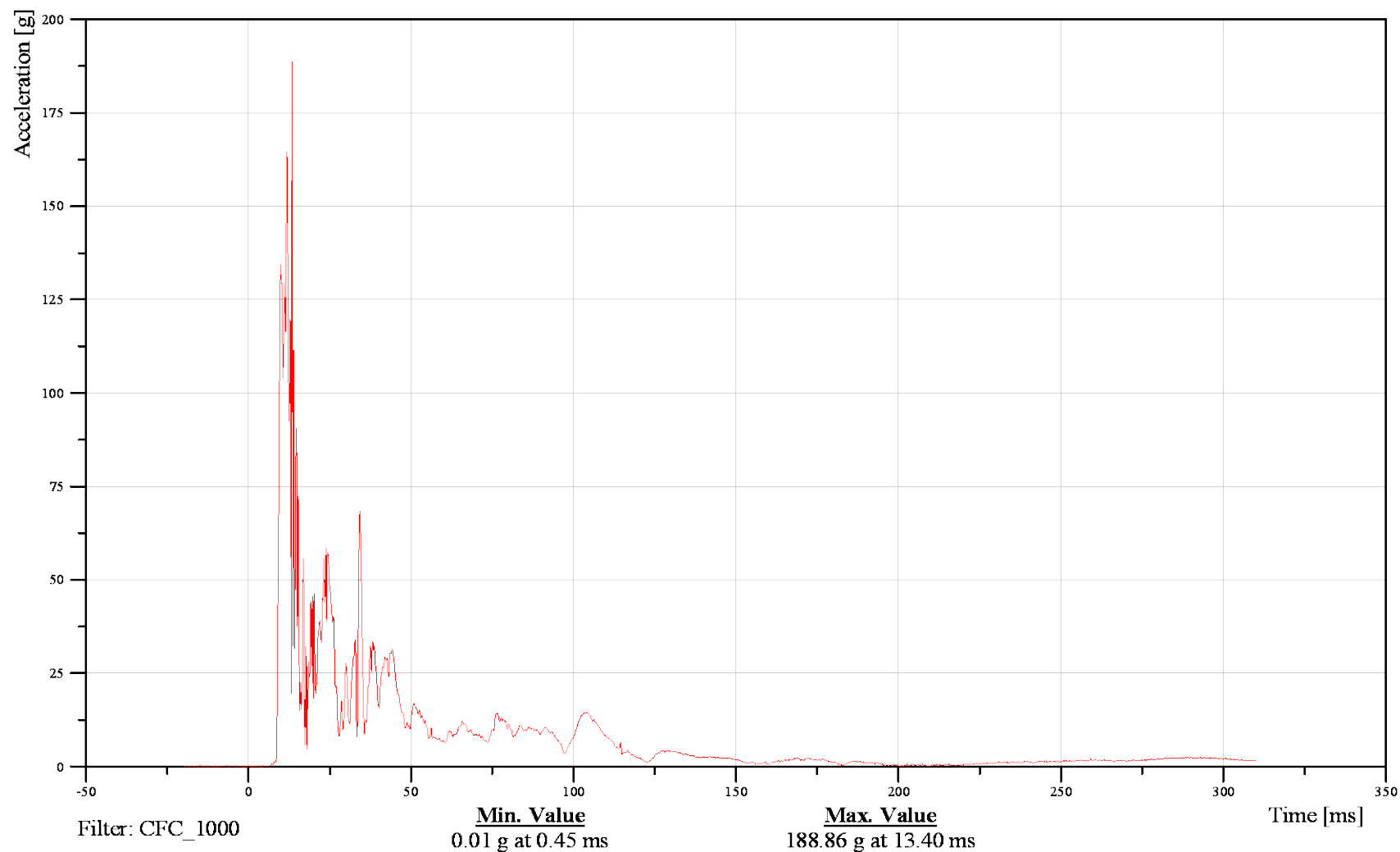
Time: 08:43

Customer: VRTC

11SHLDLE00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Force Fx

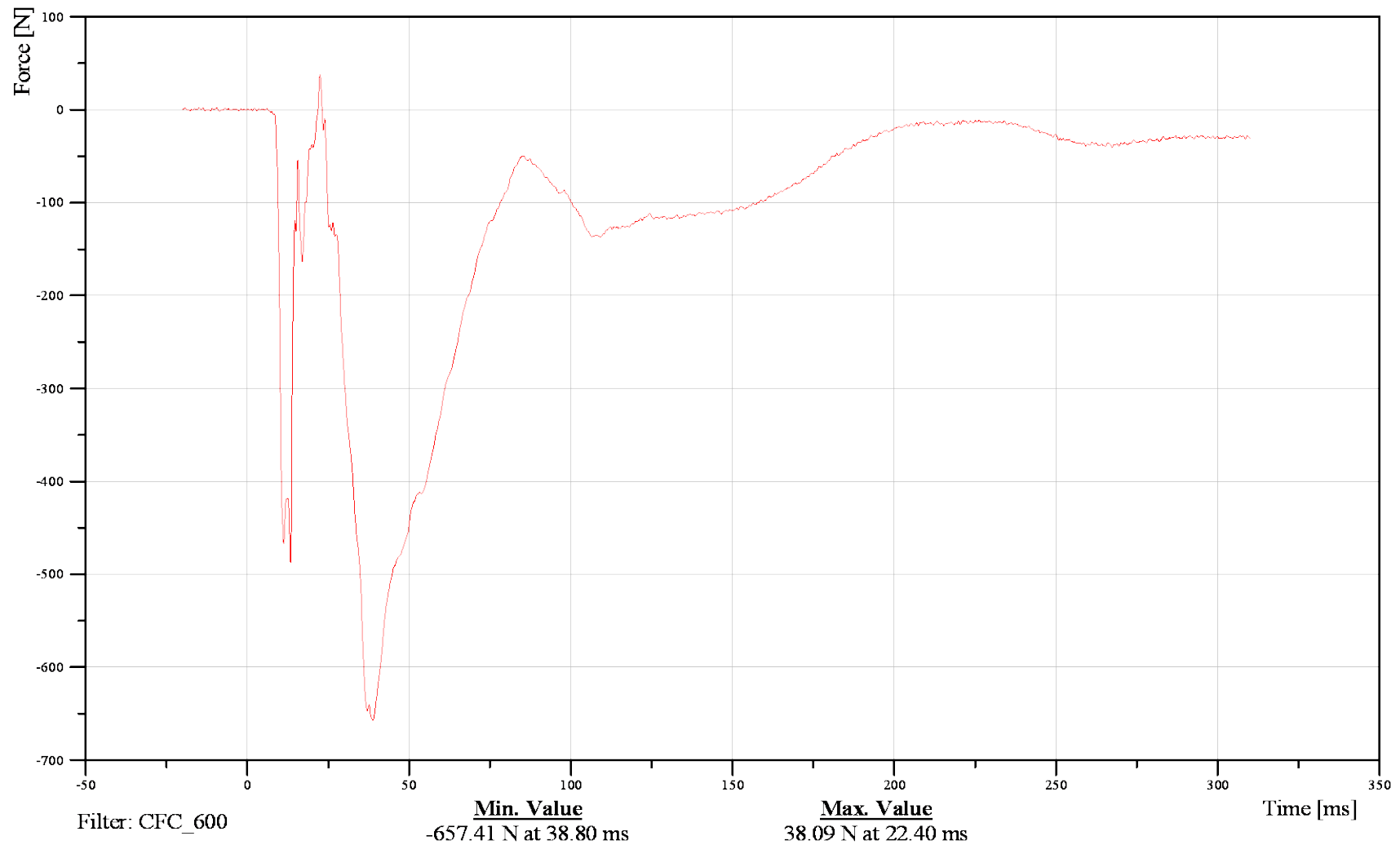
Date: 06/17/2013
Time: 08:43

Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Force Fy

Date: 06/17/2013

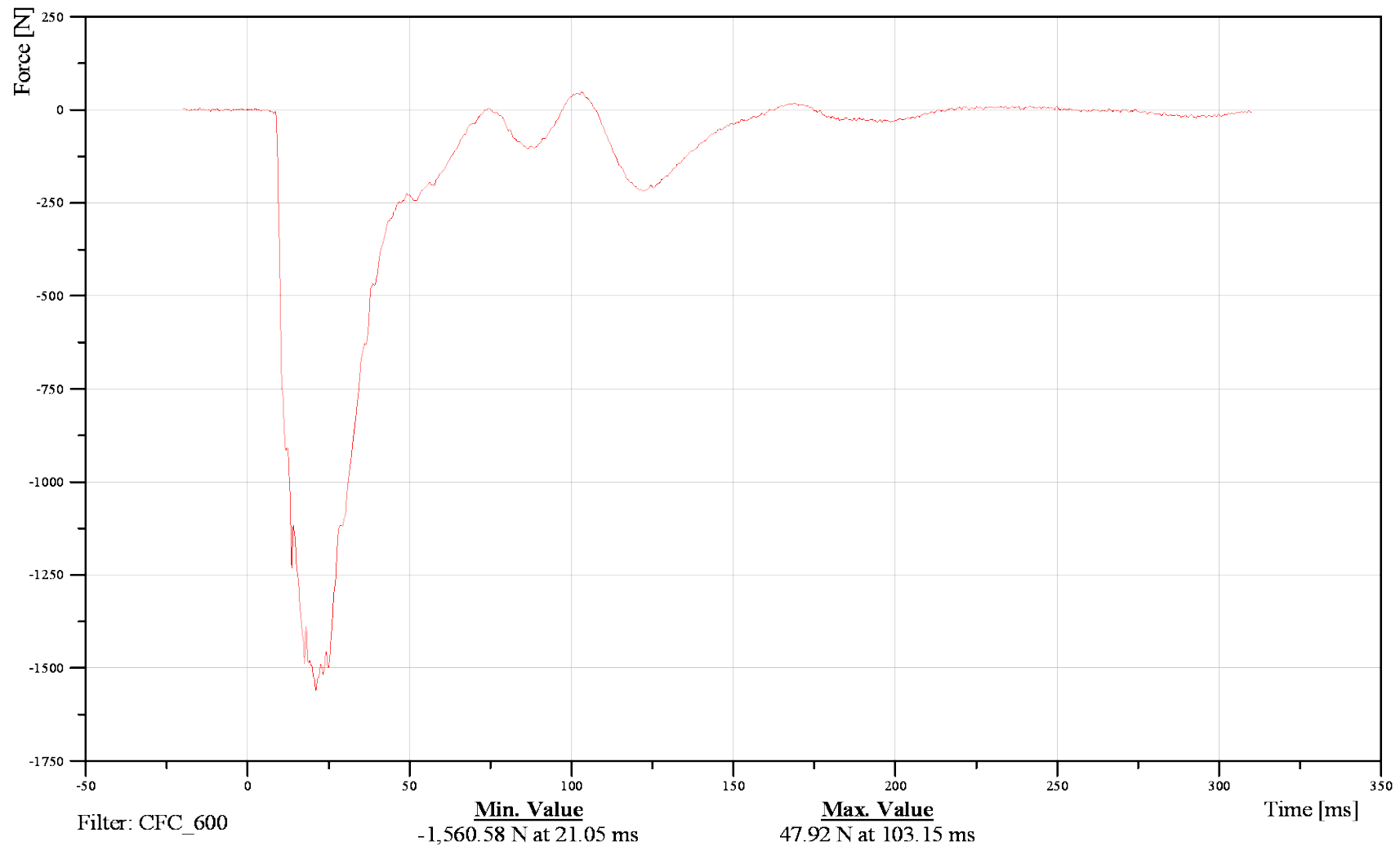
Time: 08:43

Customer: VRTC

11SHLDLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Force Fz

Date: 06/17/2013

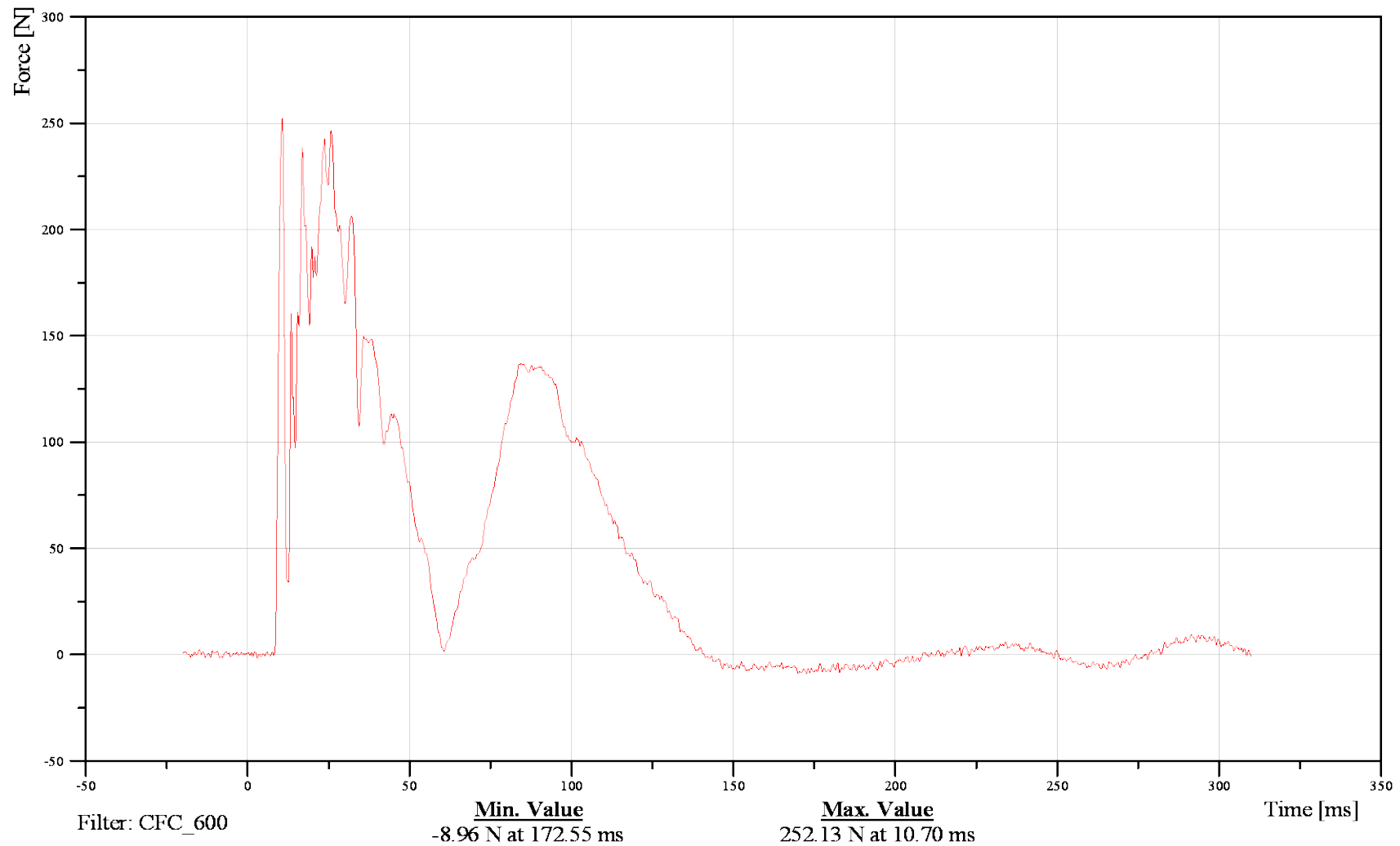
Time: 08:43

Customer: VRTC

11SHLDLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Displacement Dy

Date: 06/17/2013

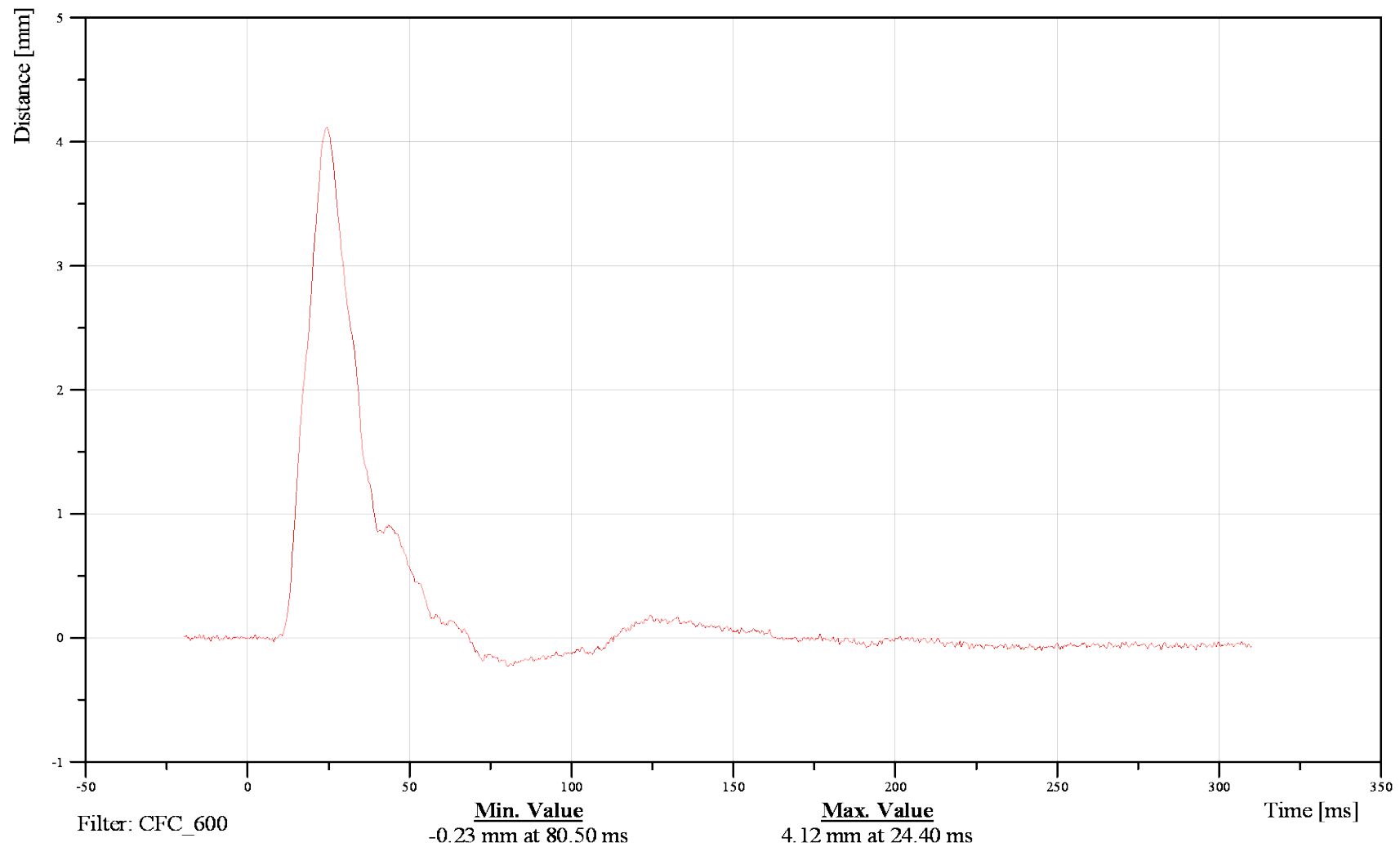
Time: 08:43

Customer: VRTC

11SHRILE00WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 Longitudinal Ax

Date: 06/17/2013

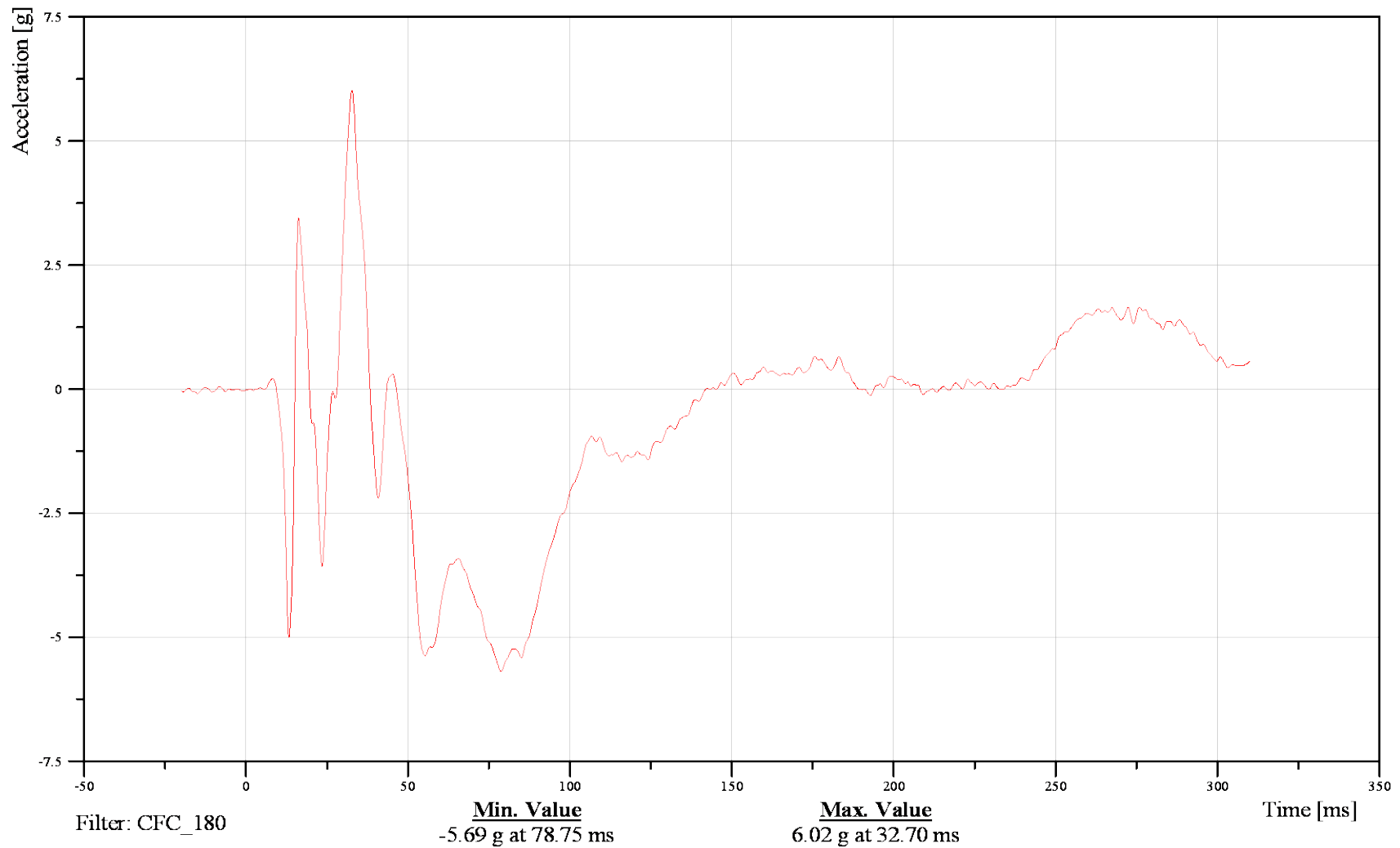
Time: 08:43

Customer: VRTC

11THSP0100WSACXC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 Lateral Ay

Date: 06/17/2013

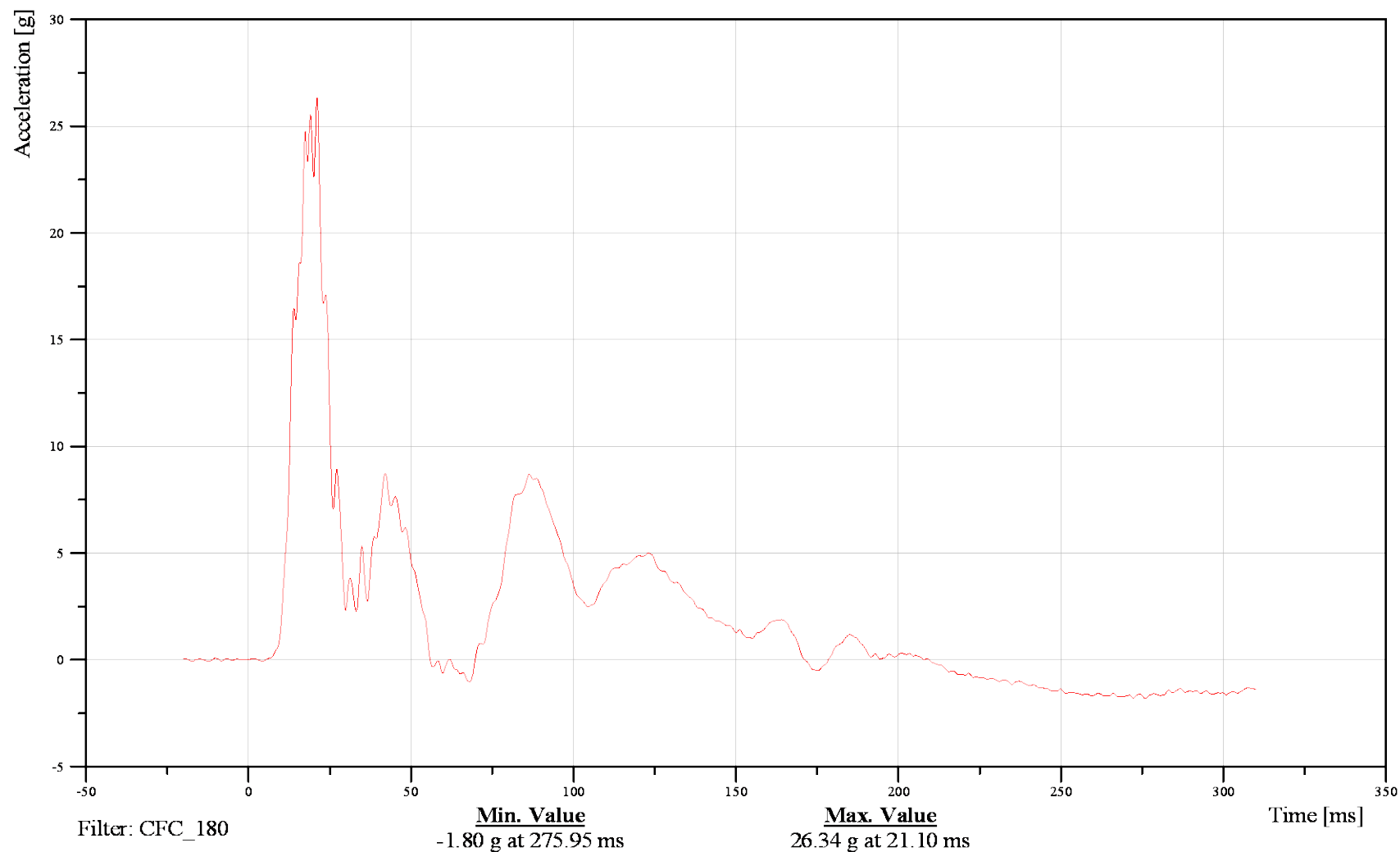
Time: 08:43

Customer: VRTC

11THSP0100WSACYC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 Vertical Az

Date: 06/17/2013

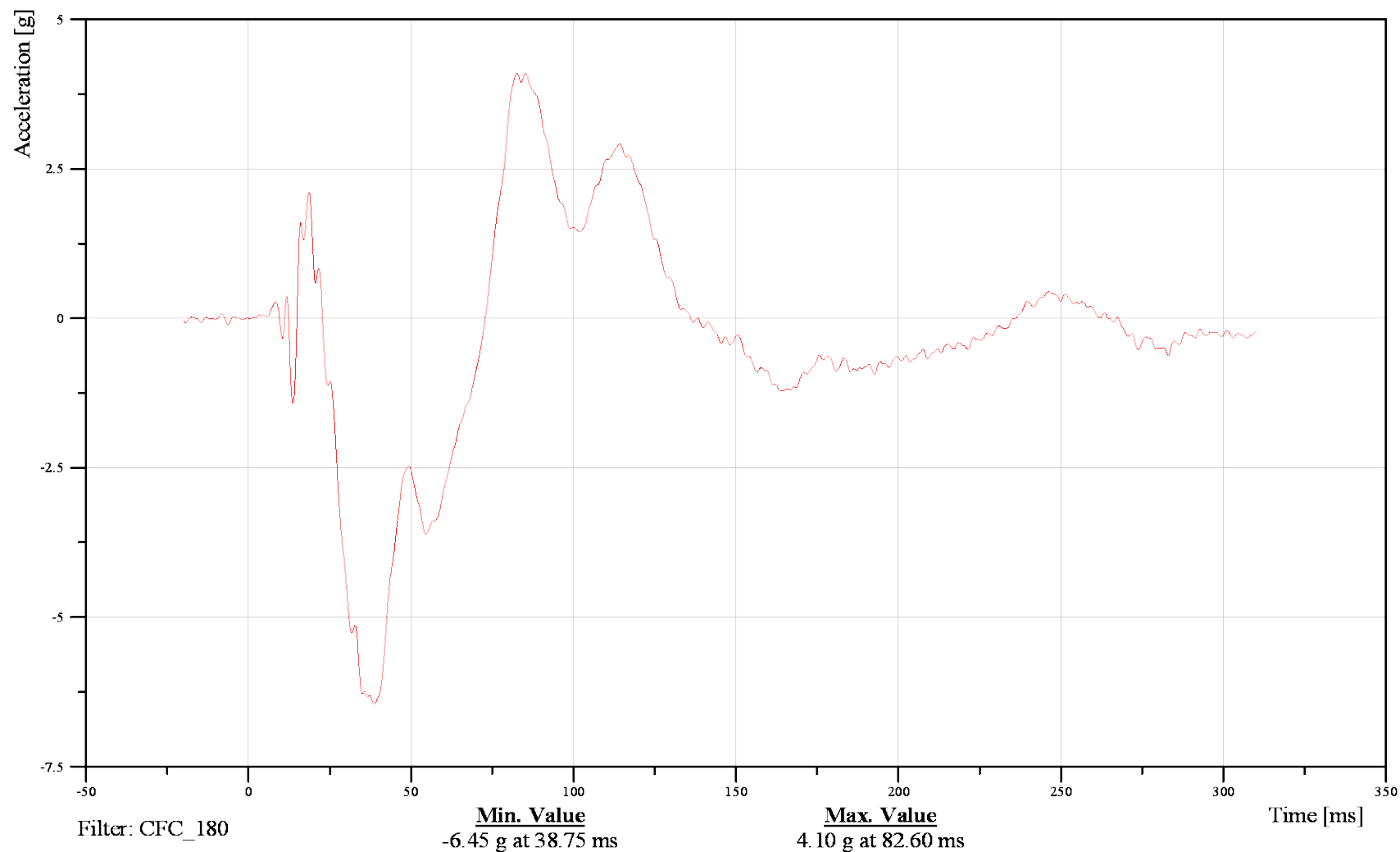
Time: 08:43

Customer: VRTC

11THSP0100WSACZC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 A Resultant

Date: 06/17/2013

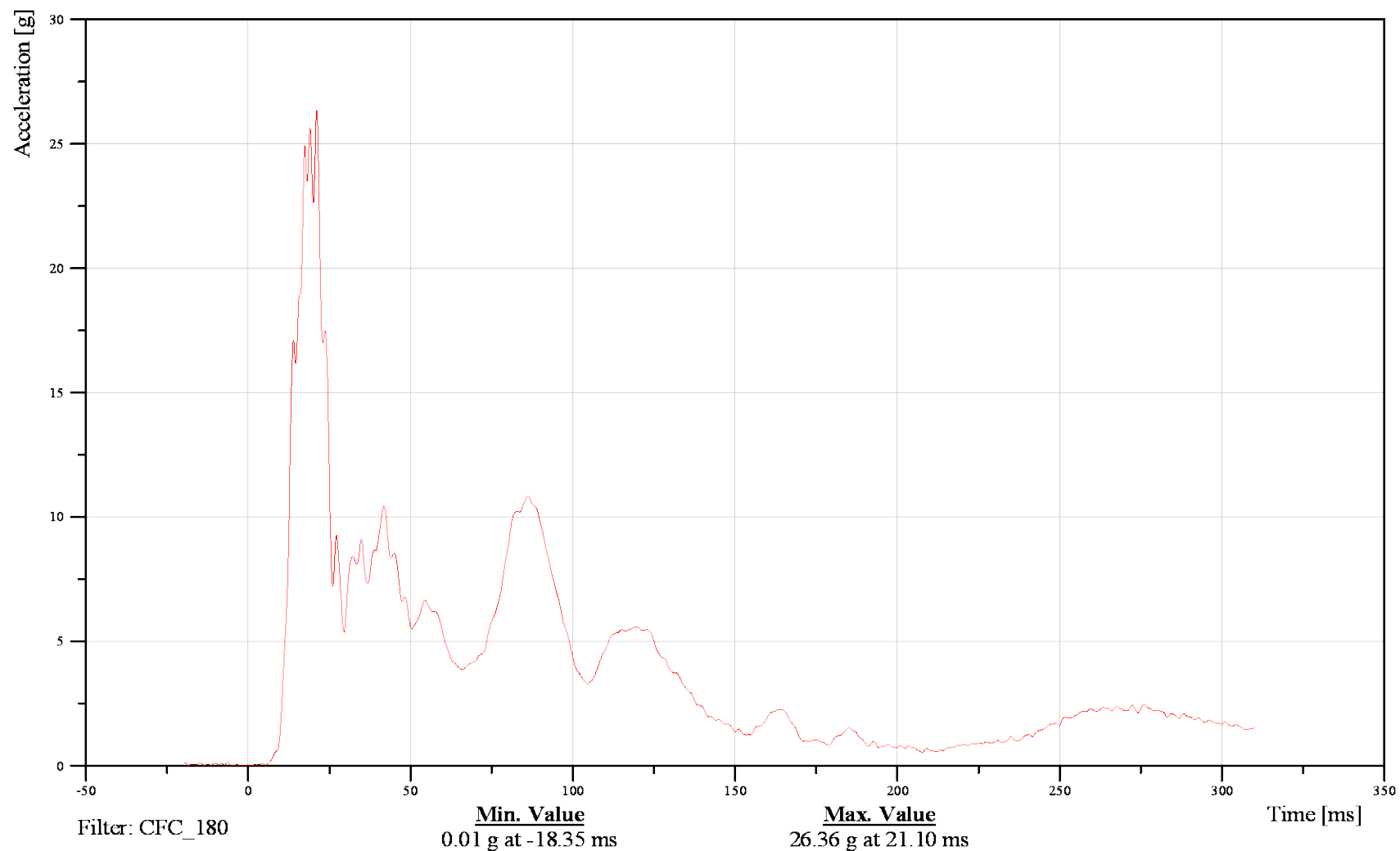
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Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Longitudinal Ax

Date: 06/17/2013

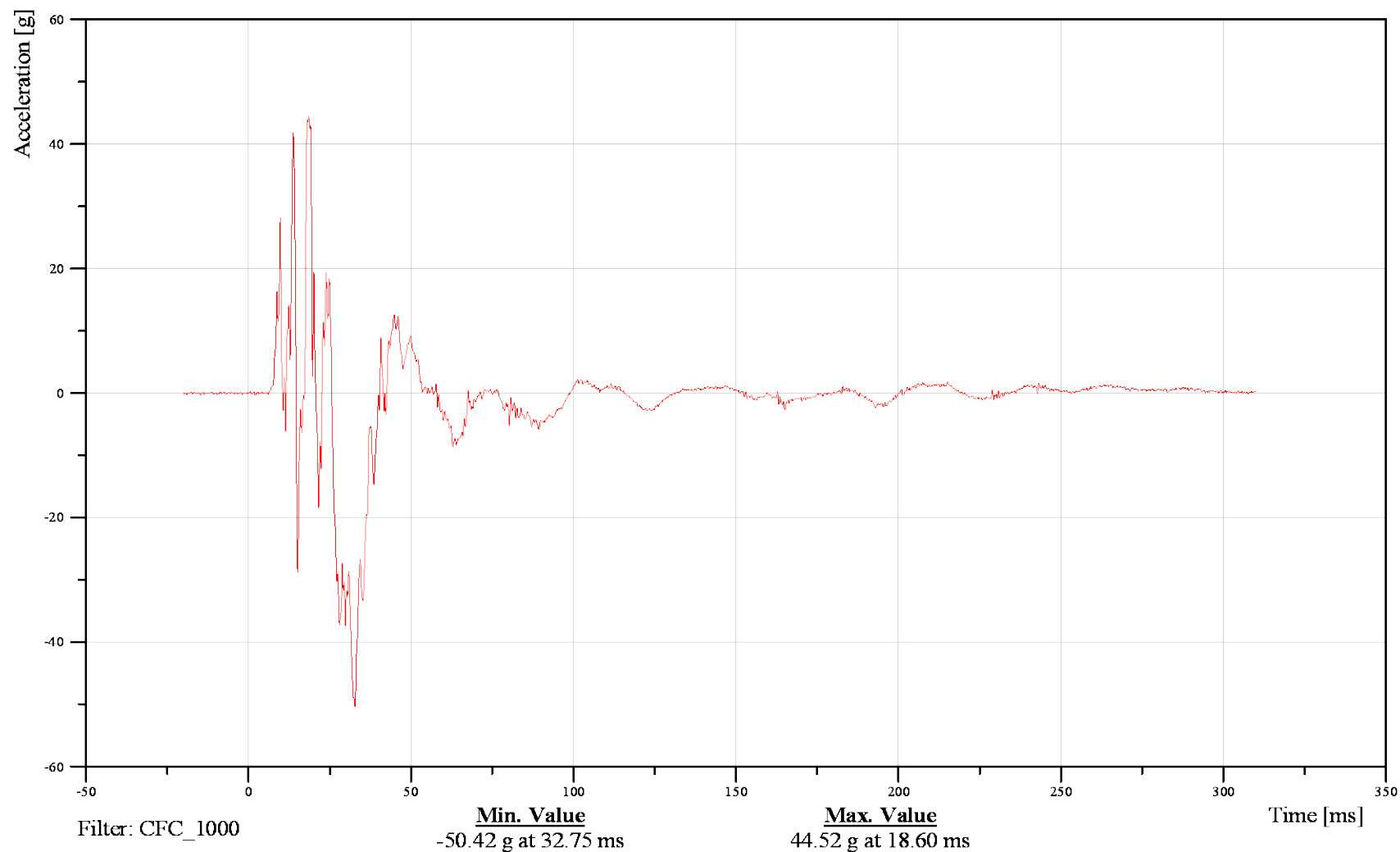
Time: 08:43

Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Lateral Ay

Date: 06/17/2013

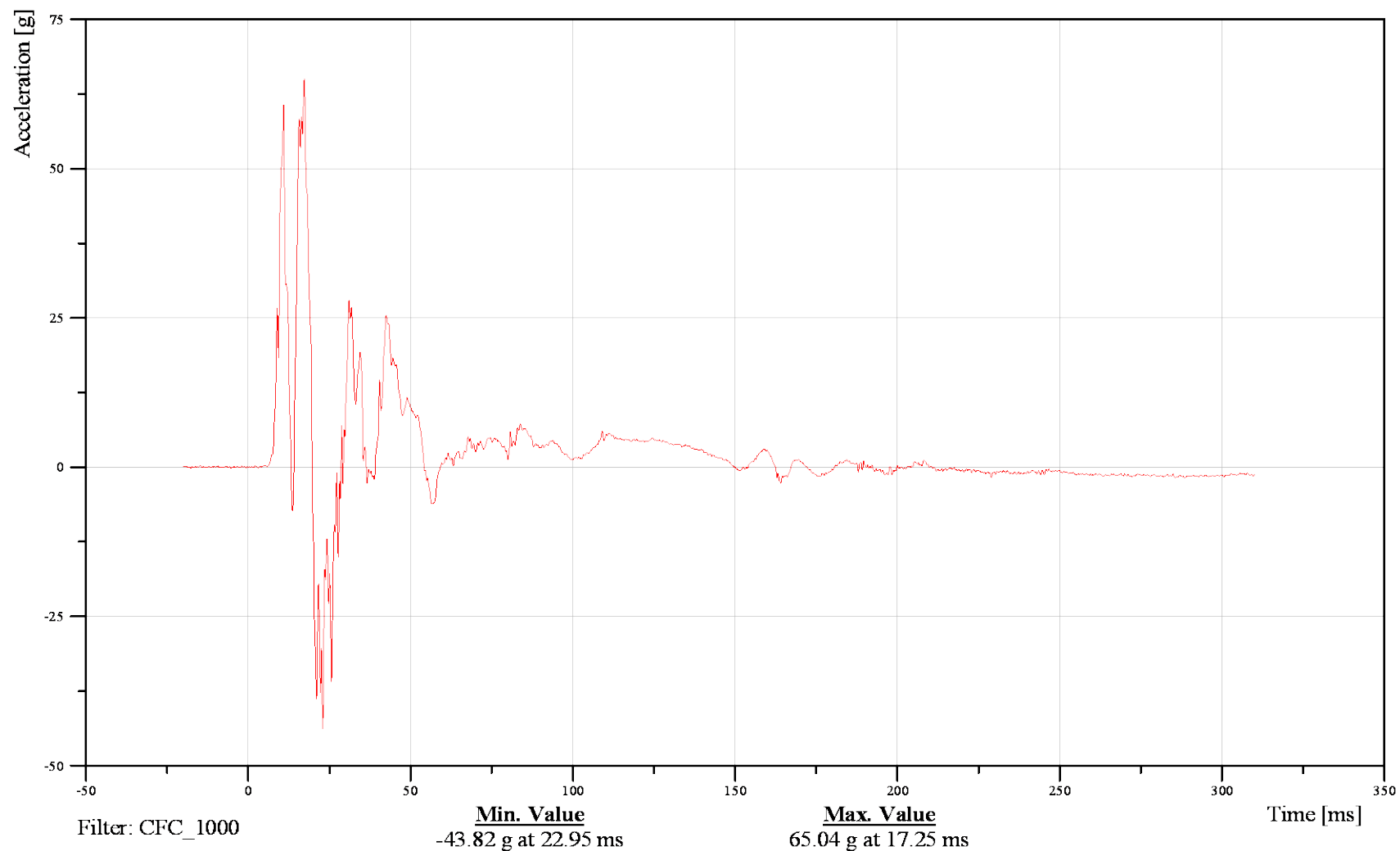
Time: 08:43

Customer: VRTC

11TRRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Vertical Az

Date: 06/17/2013

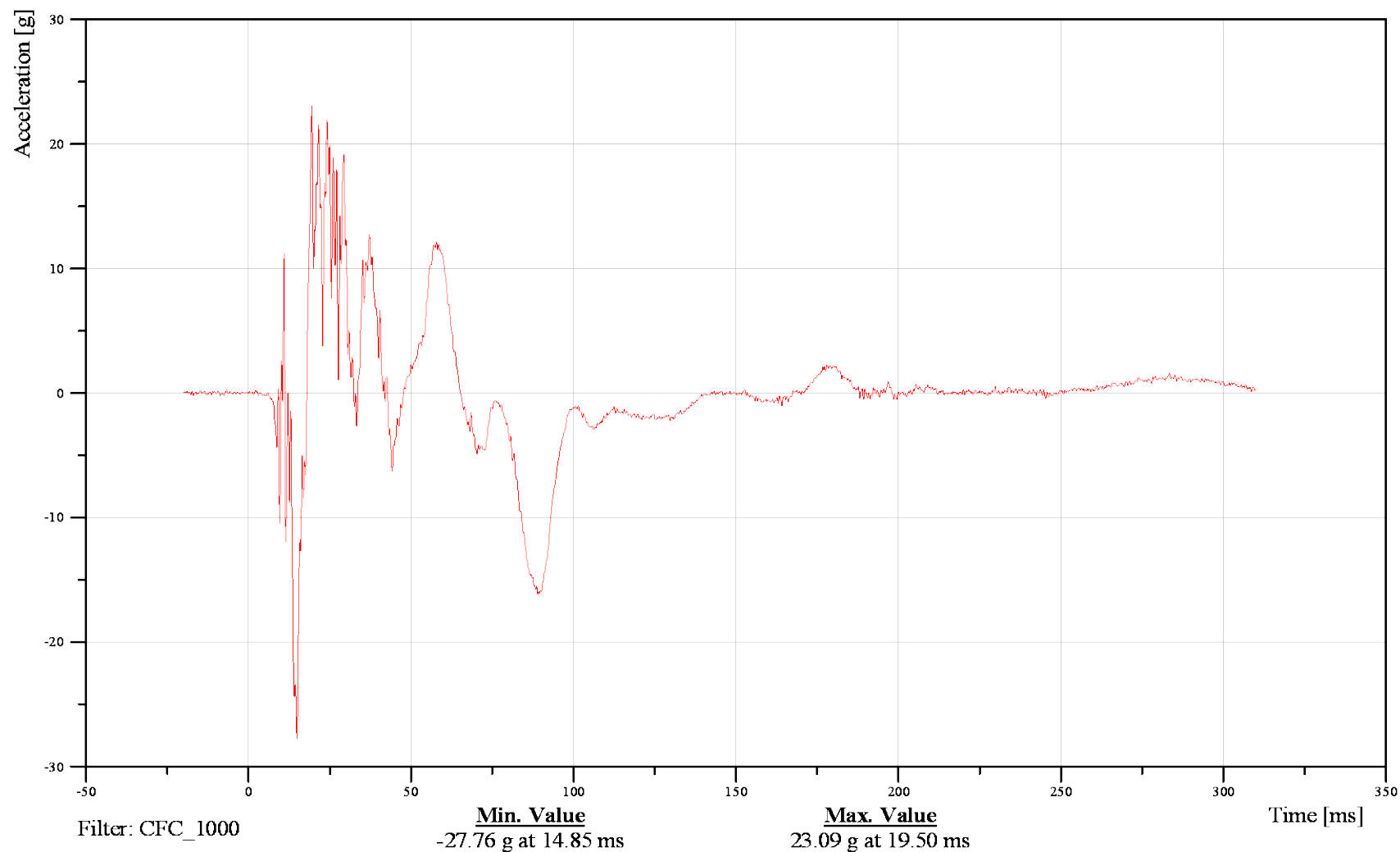
Time: 08:43

Customer: VRTC

11TRRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 A Resultant

Date: 06/17/2013

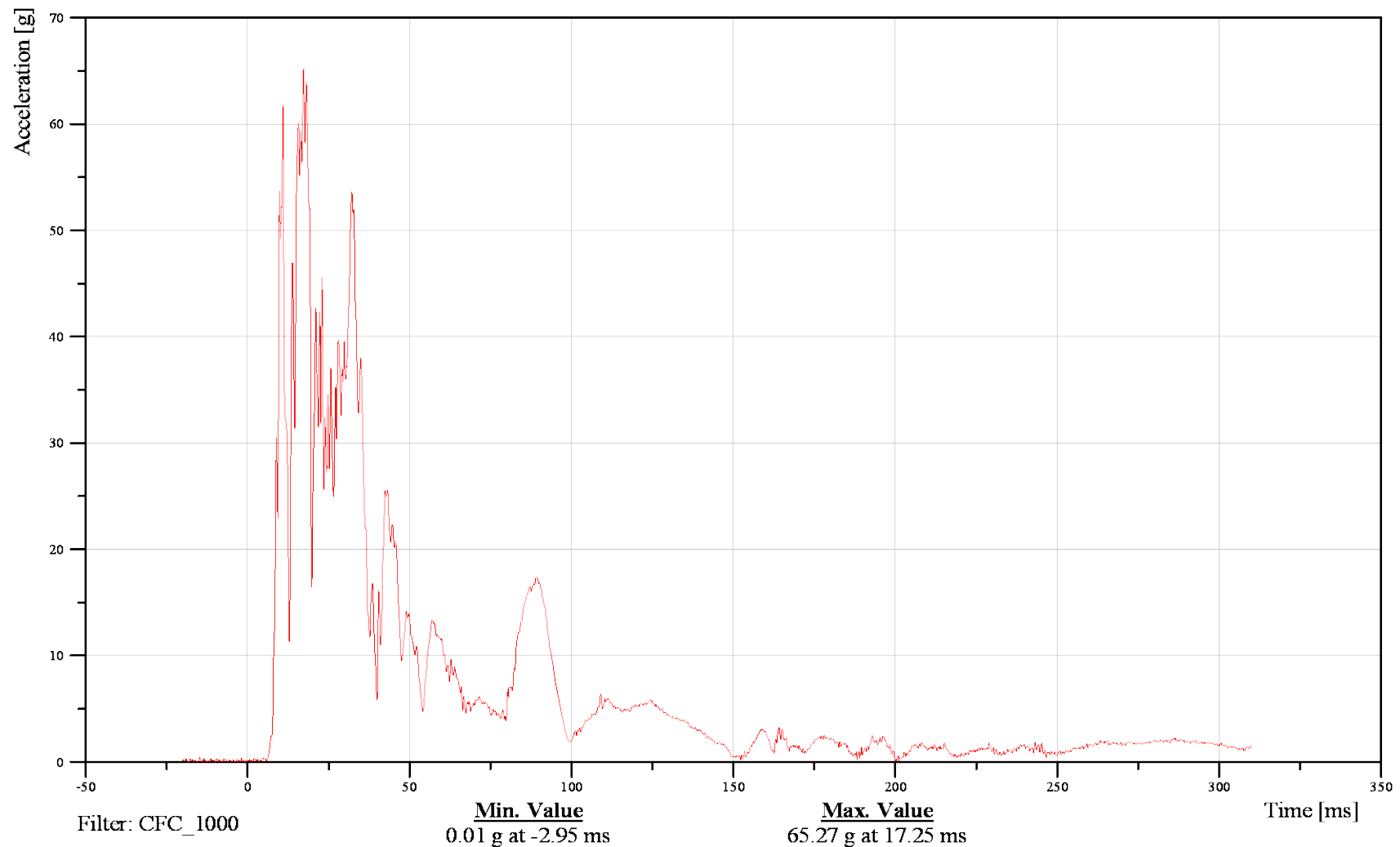
Time: 08:43

Customer: VRTC

11TRRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Displacement Dy

Date: 06/17/2013

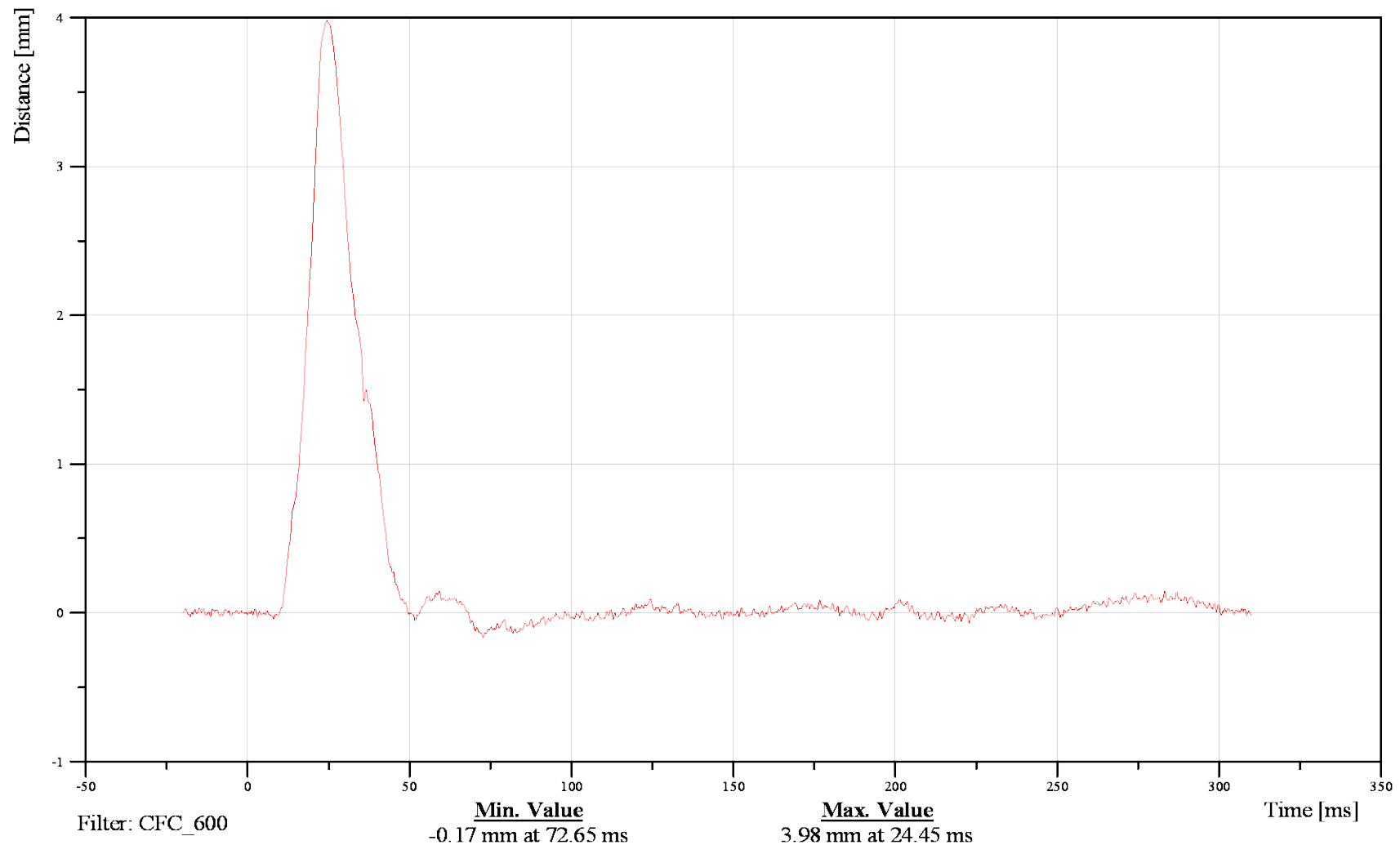
Time: 08:43

Customer: VRTC

11TRRILE01WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Longitudinal Ax

Date: 06/17/2013

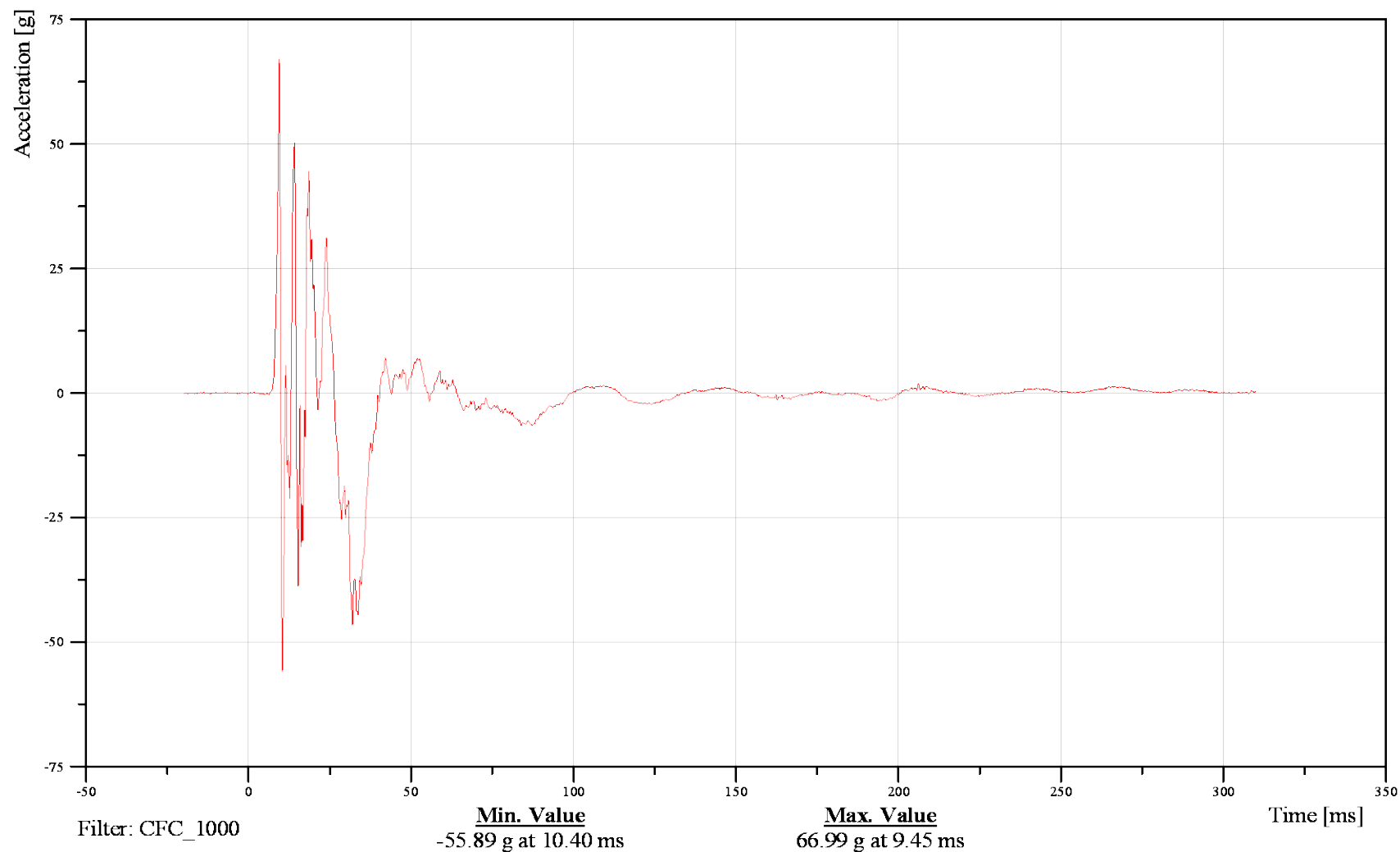
Time: 08:43

Customer: VRTC

11TRRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Lateral Ay

Date: 06/17/2013

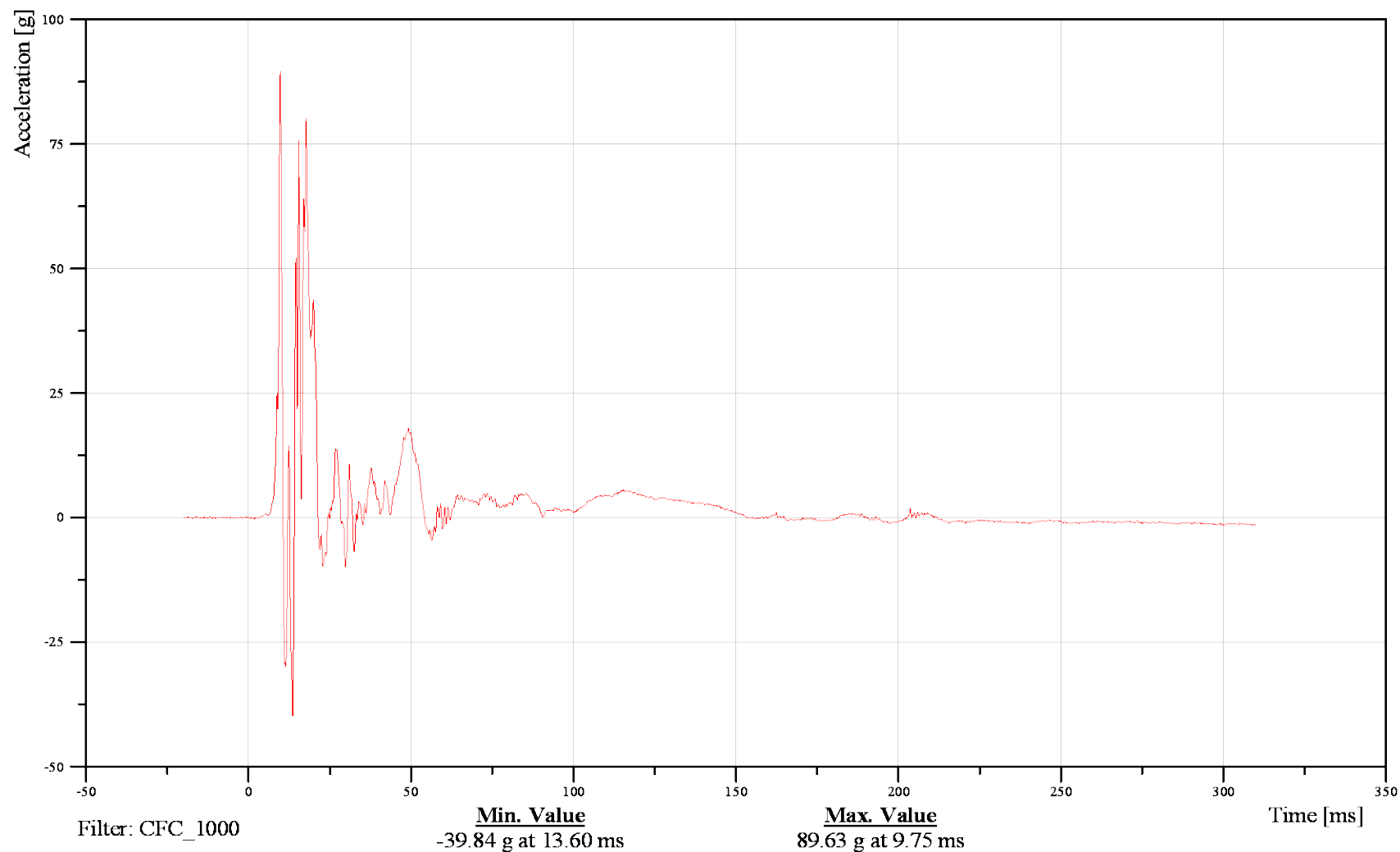
Time: 08:43

Customer: VRTC

11TRRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Vertical Az

Date: 06/17/2013

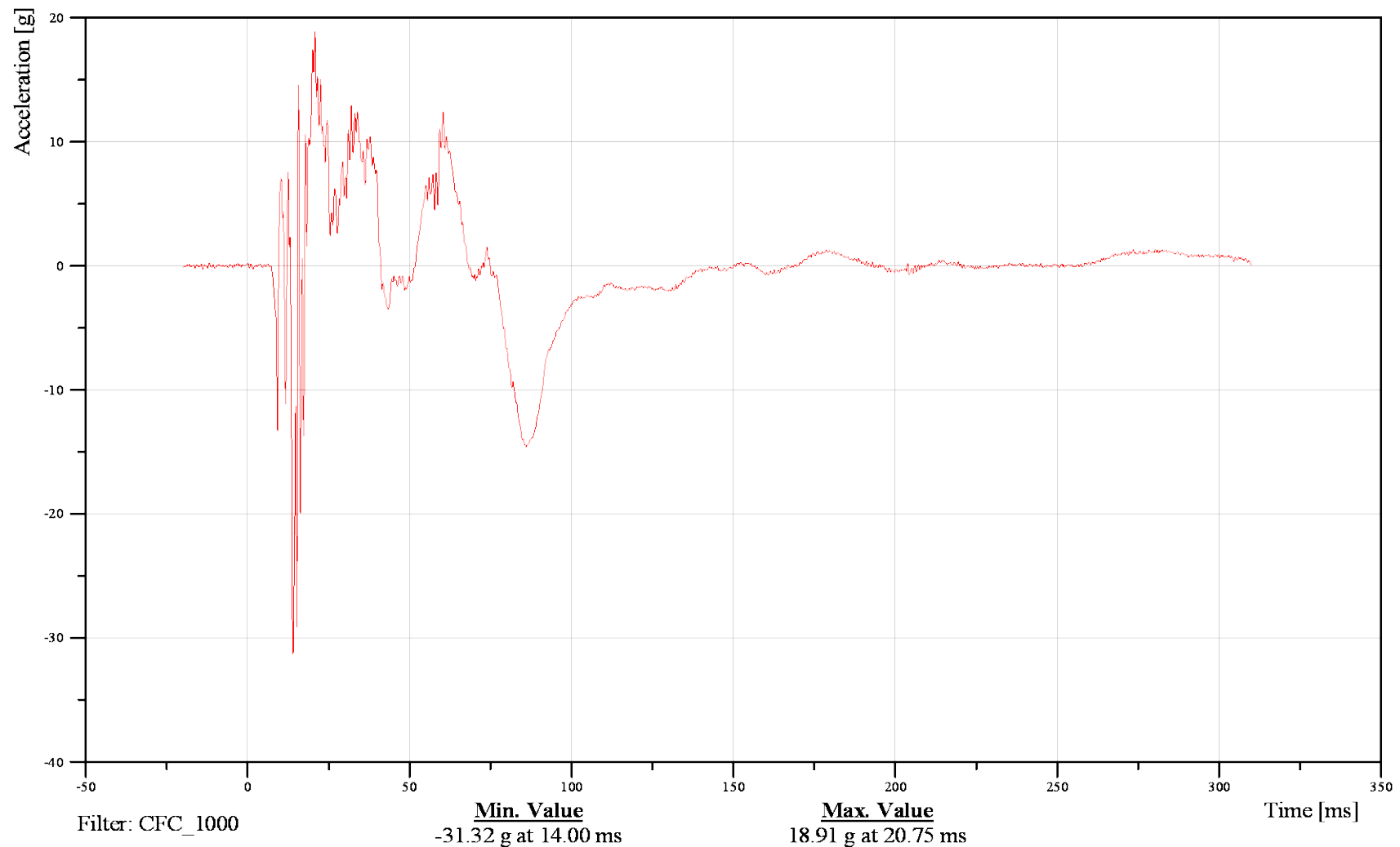
Time: 08:43

Customer: VRTC

11TRRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 A Resultant

Date: 06/17/2013

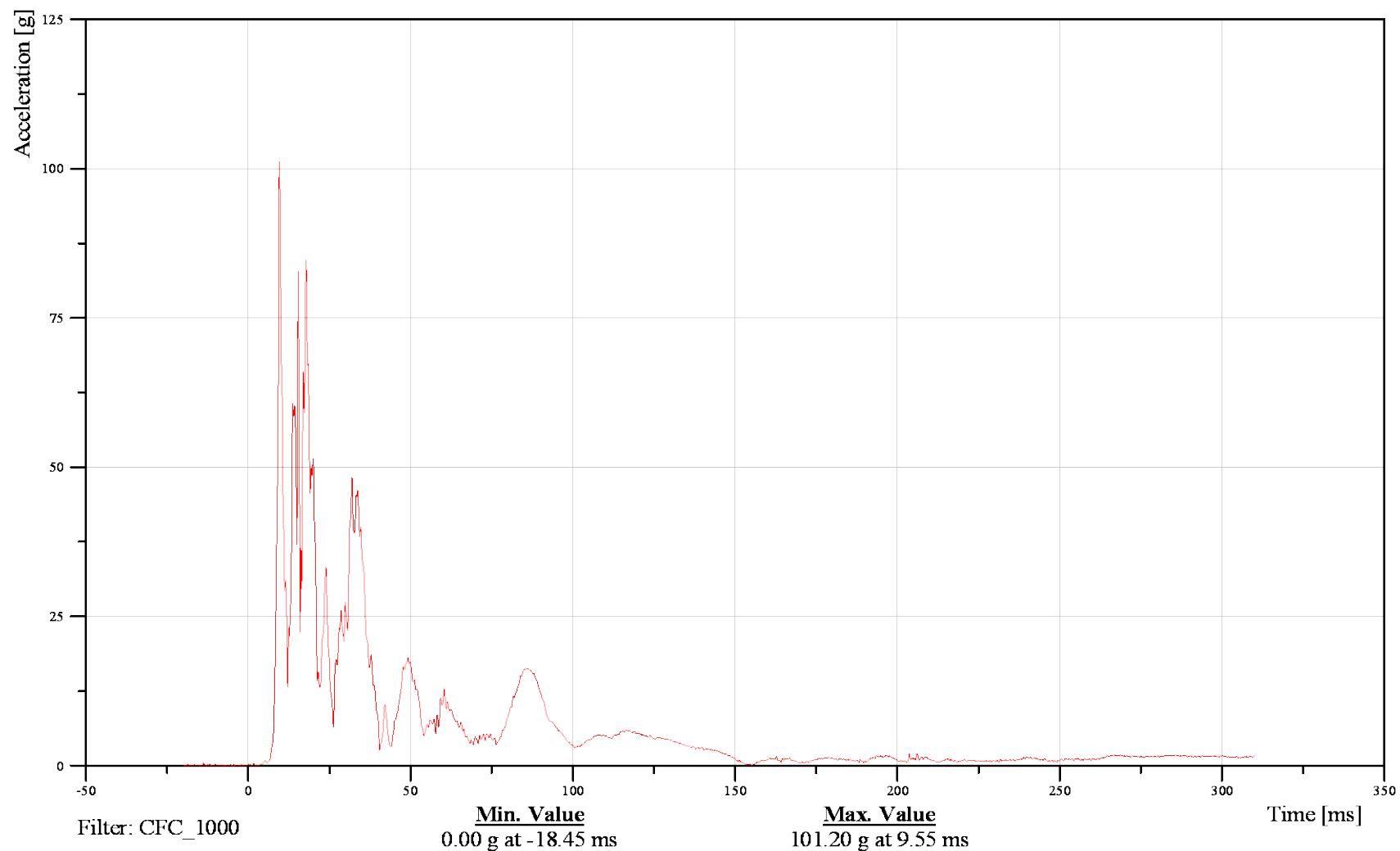
Time: 08:43

Customer: VRTC

11TRRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Displacement Dy

Date: 06/17/2013

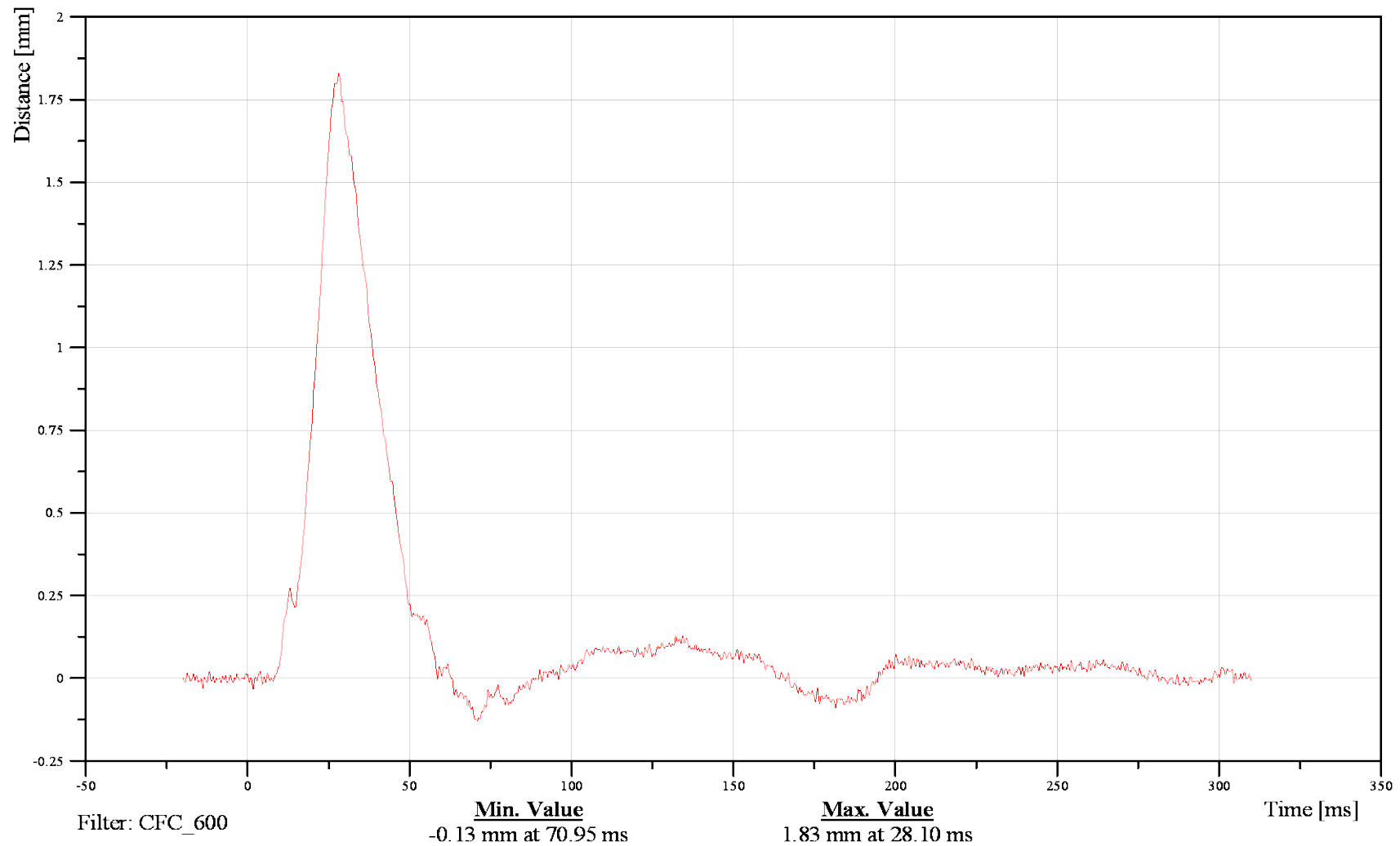
Time: 08:43

Customer: VRTC

11TRRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Longitudinal Ax

Date: 06/17/2013

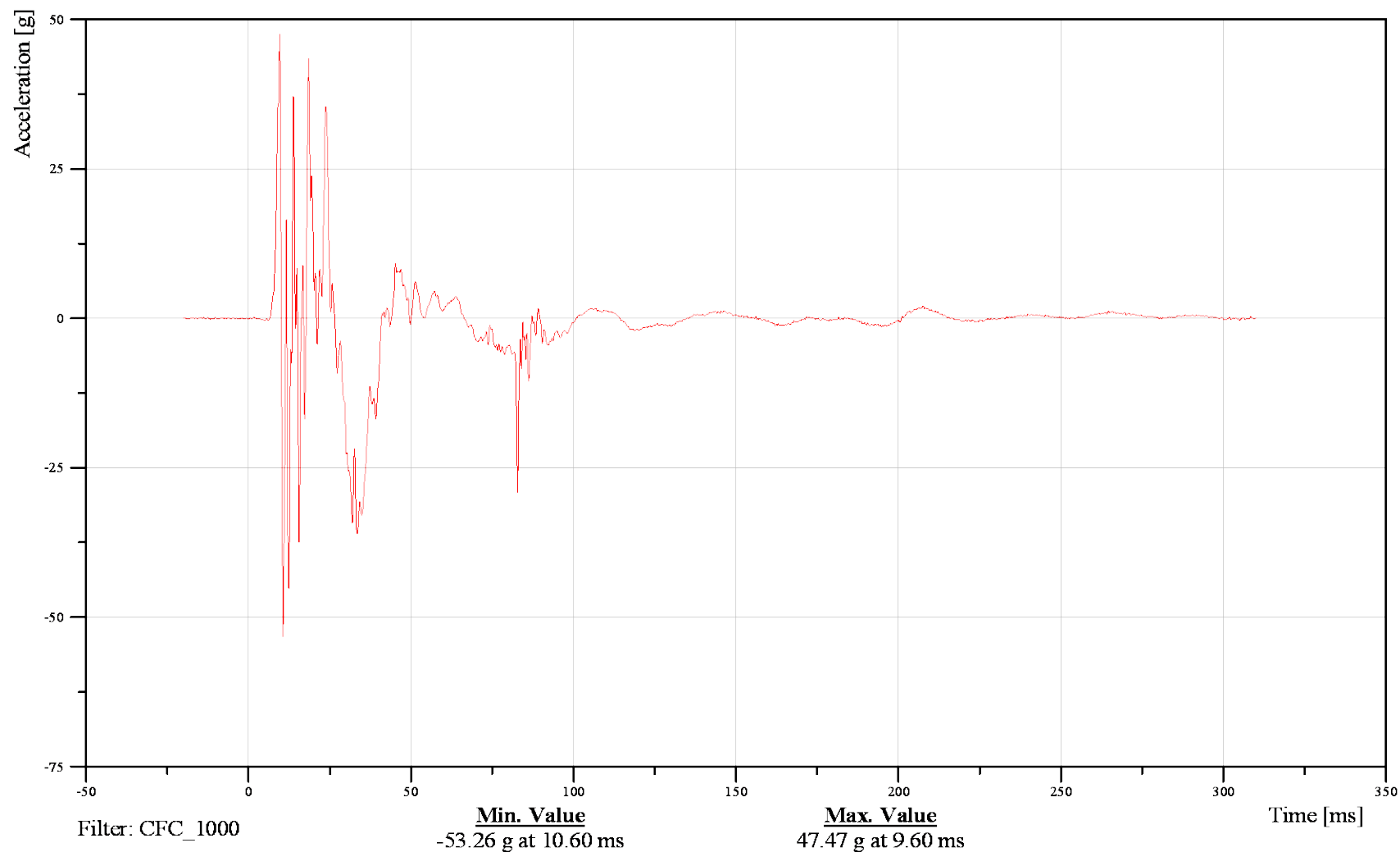
Time: 08:43

Customer: VRTC

11TRRILE03WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Lateral Ay

Date: 06/17/2013

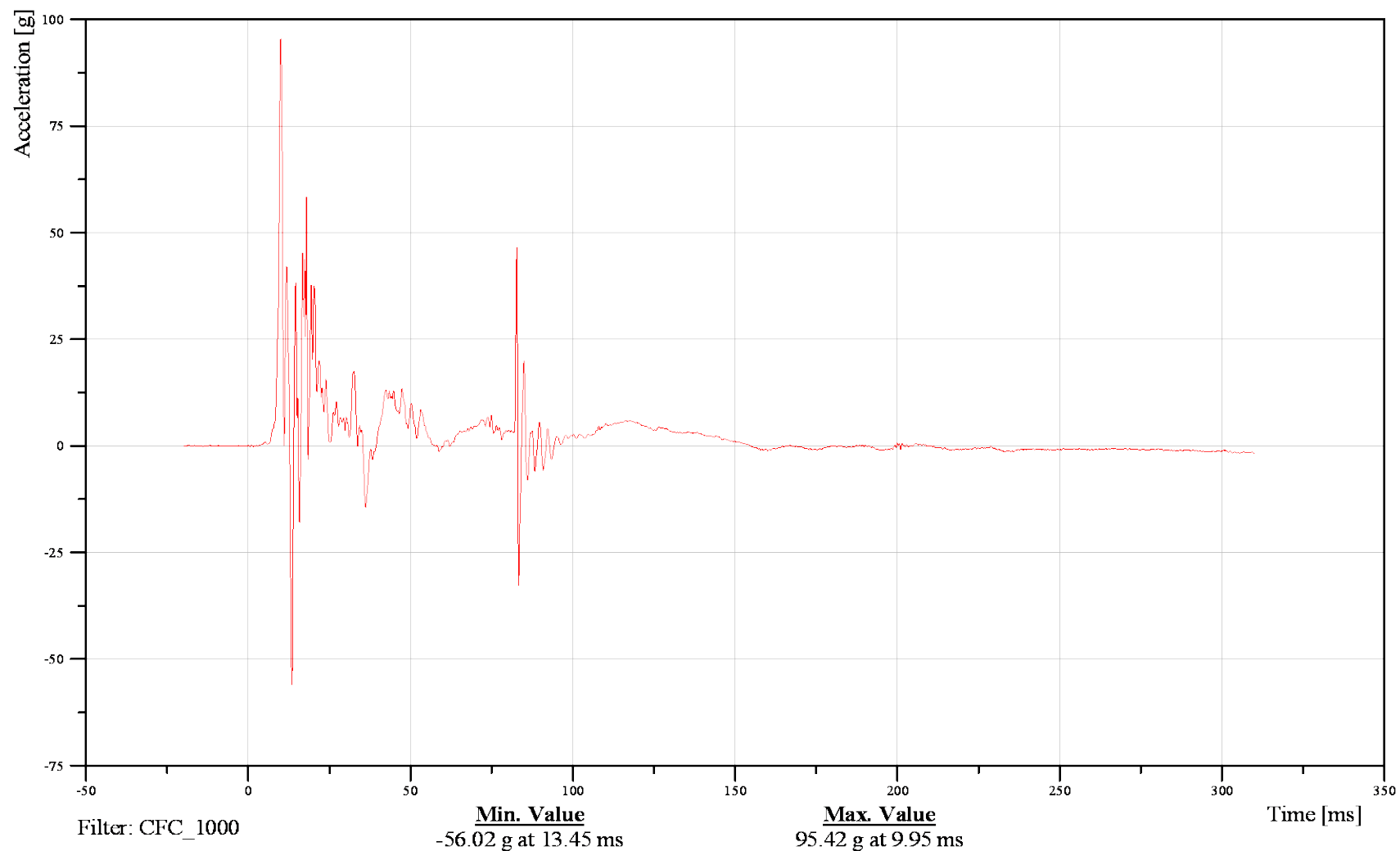
Time: 08:43

Customer: VRTC

11TRRILE03WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Vertical Az

Date: 06/17/2013

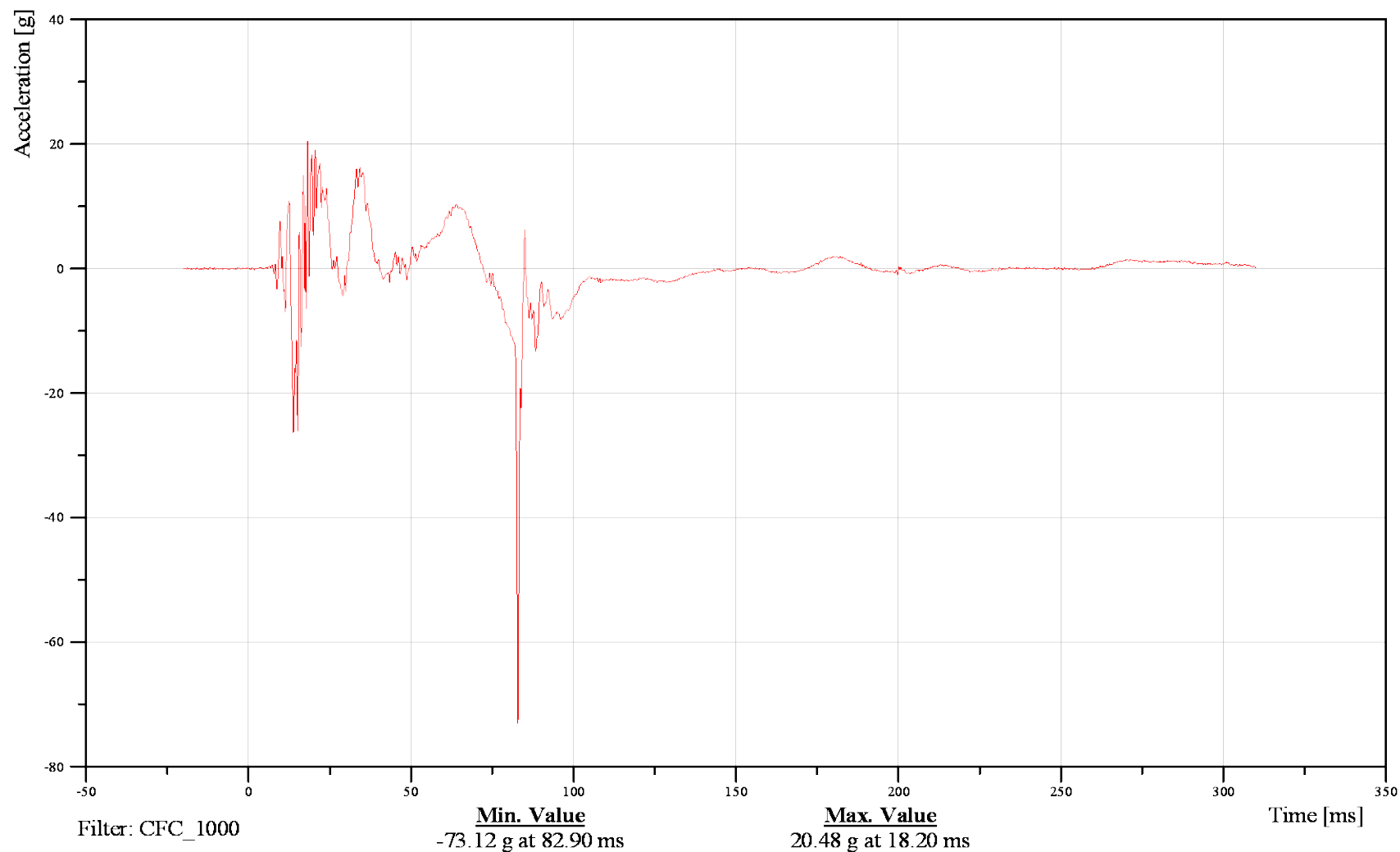
Time: 08:43

Customer: VRTC

11TRRILE03WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 A Resultant

Date: 06/17/2013

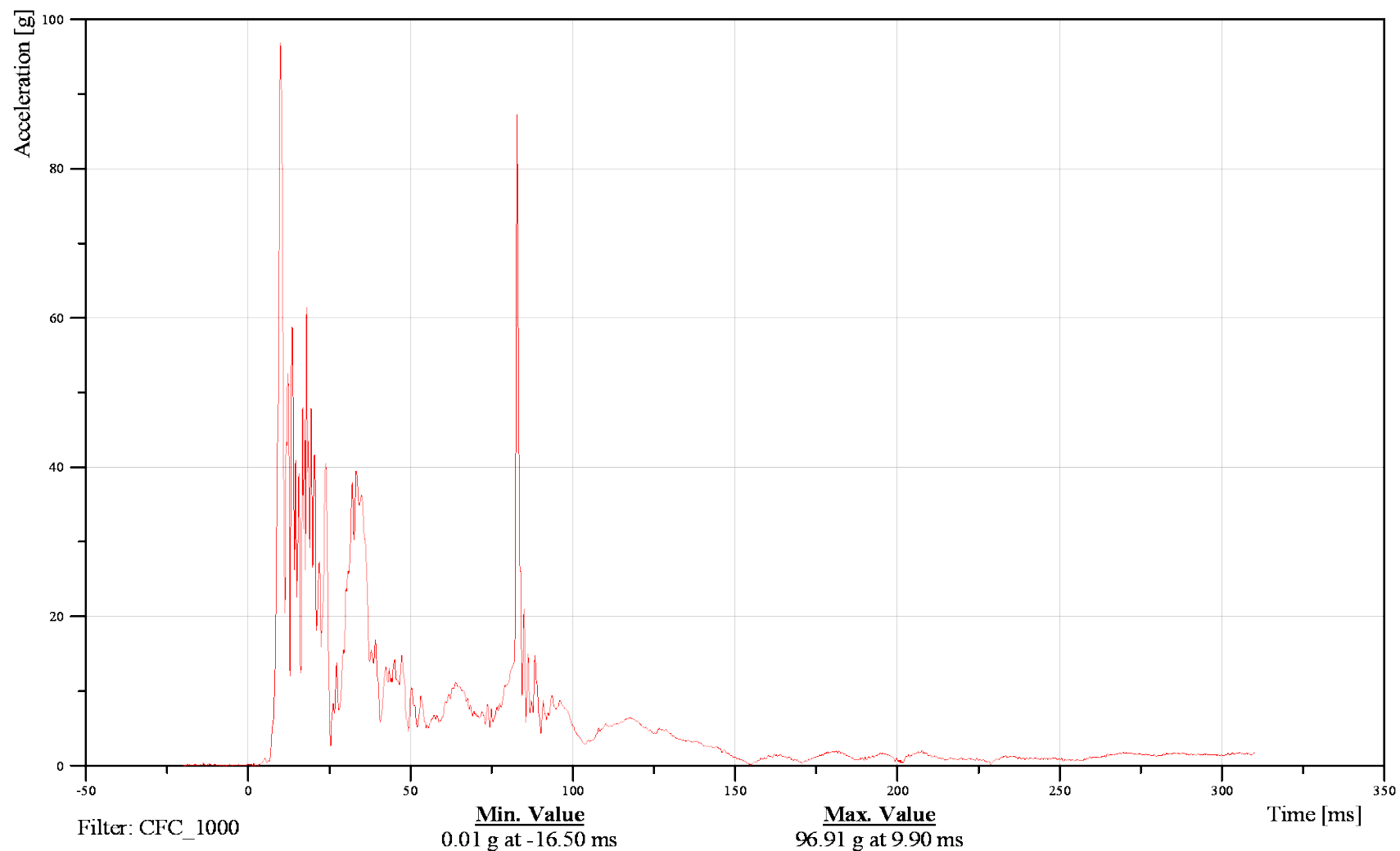
Time: 08:43

Customer: VRTC

11TRRILE03WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Displacement Dy

Date: 06/17/2013

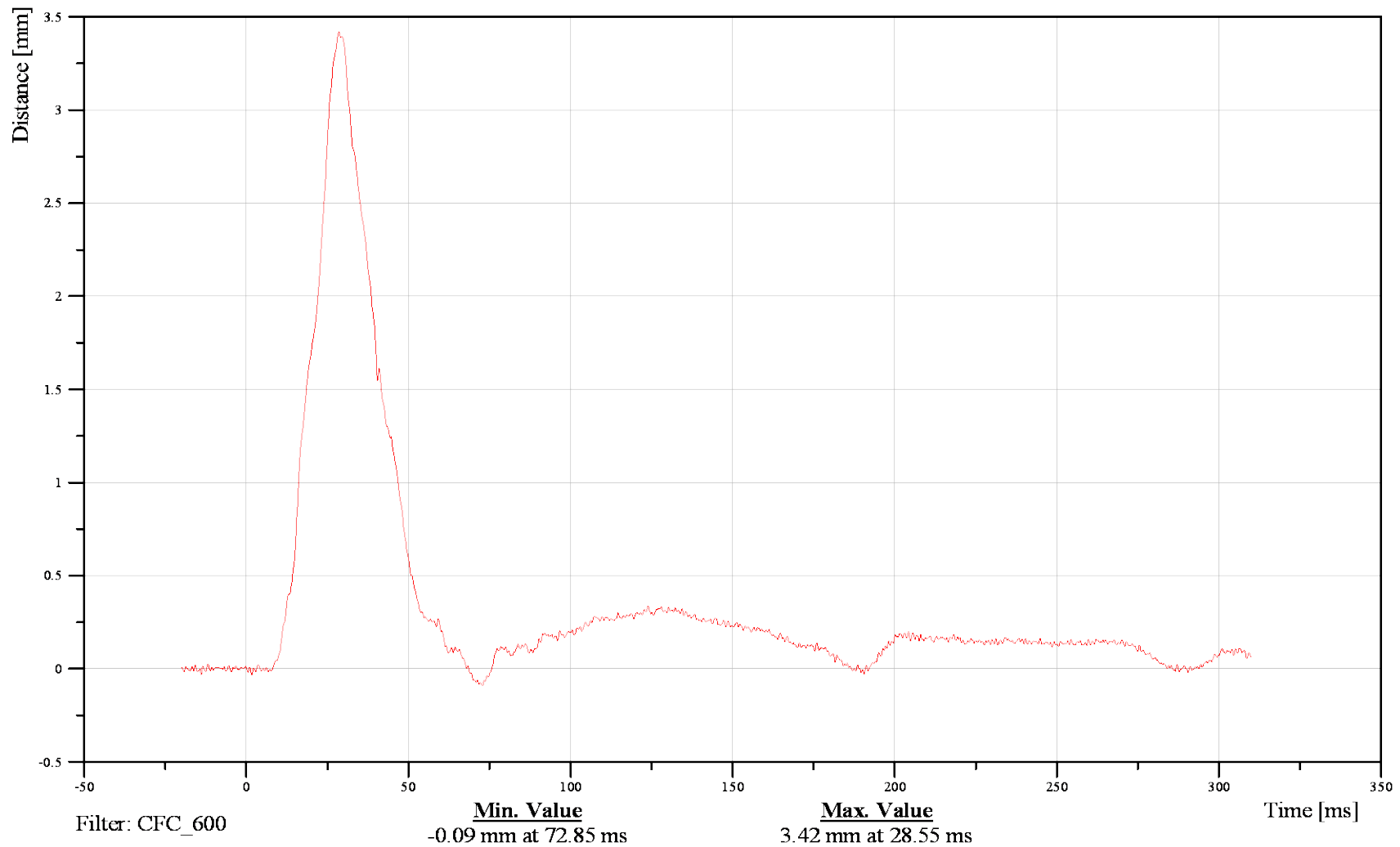
Time: 08:43

Customer: VRTC

11TRRILE03WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 Longitudinal Ax

Date: 06/17/2013

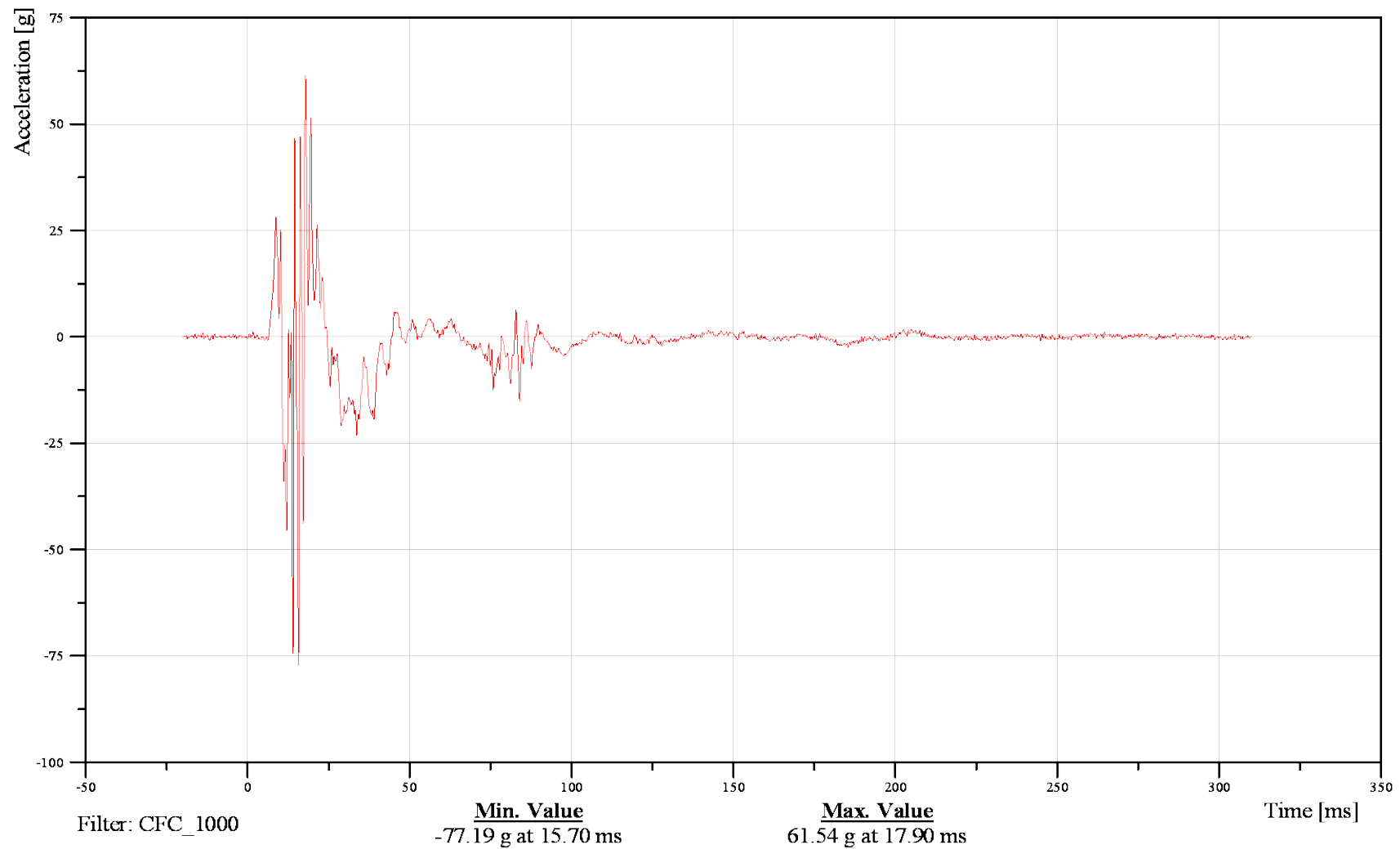
Time: 08:43

Customer: VRTC

11ABRILE01WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 Lateral Ay

Date: 06/17/2013

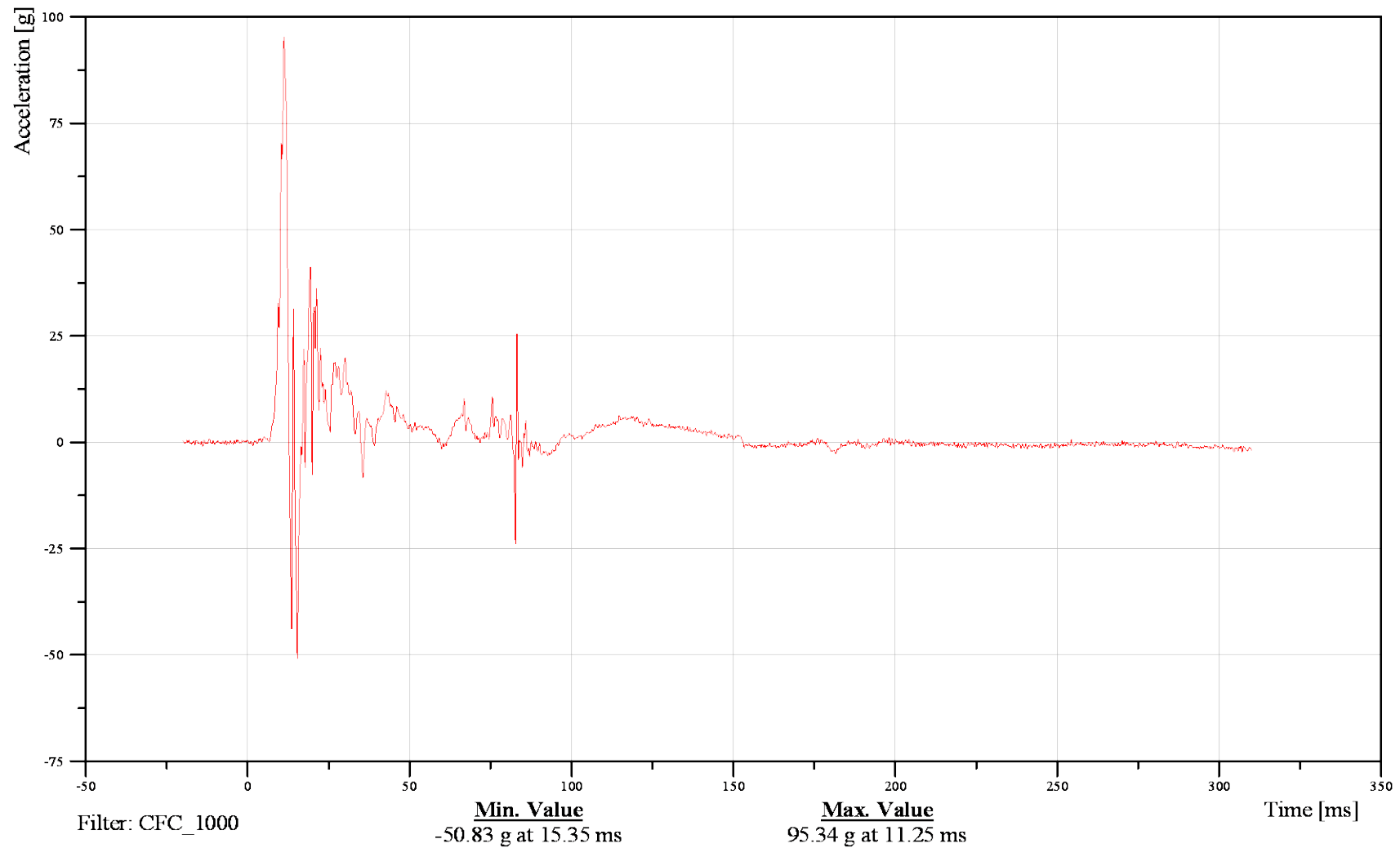
Time: 08:43

Customer: VRTC

11ABRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 Vertical Az

Date: 06/17/2013

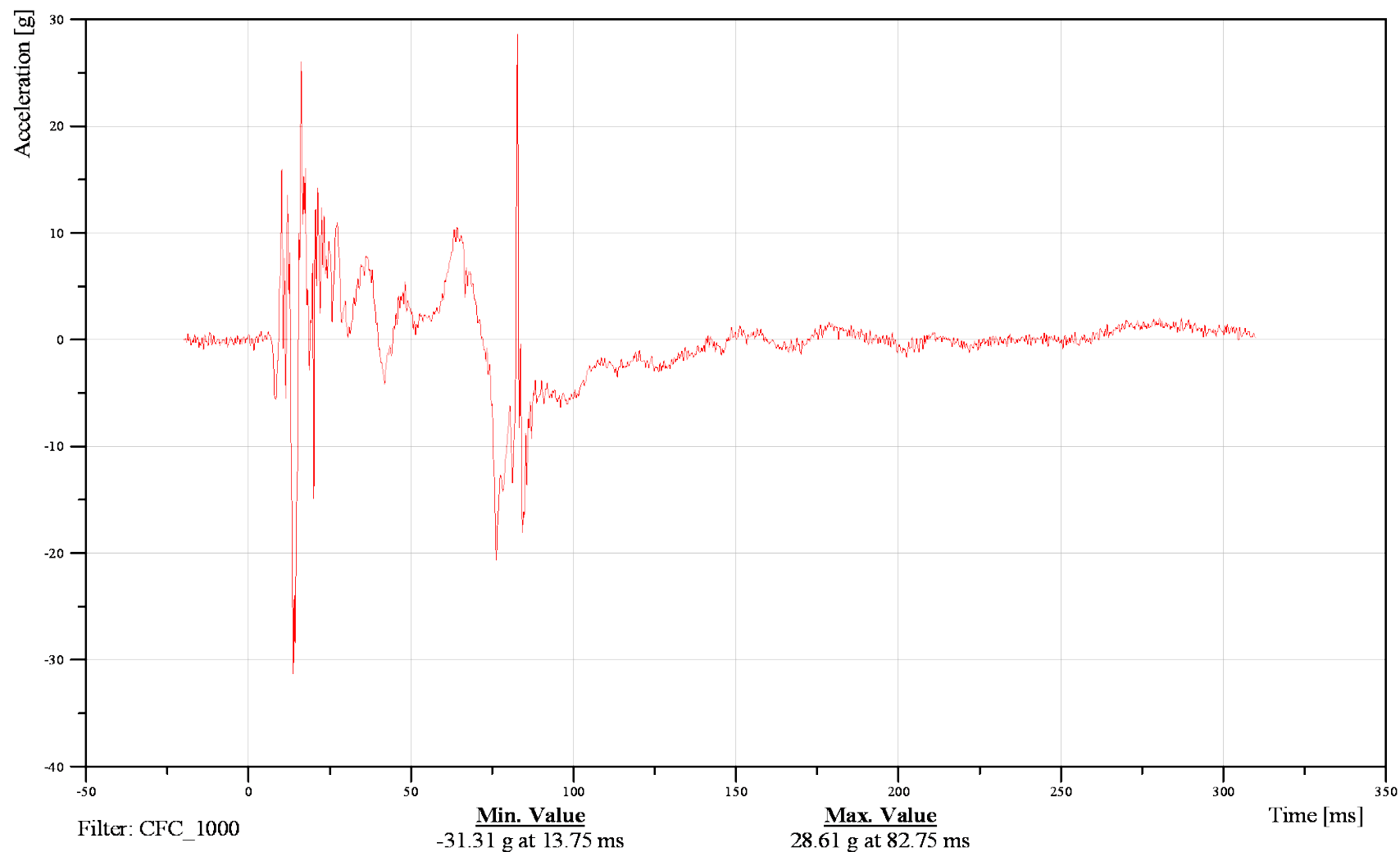
Time: 08:43

Customer: VRTC

11ABRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 A Resultant

Date: 06/17/2013

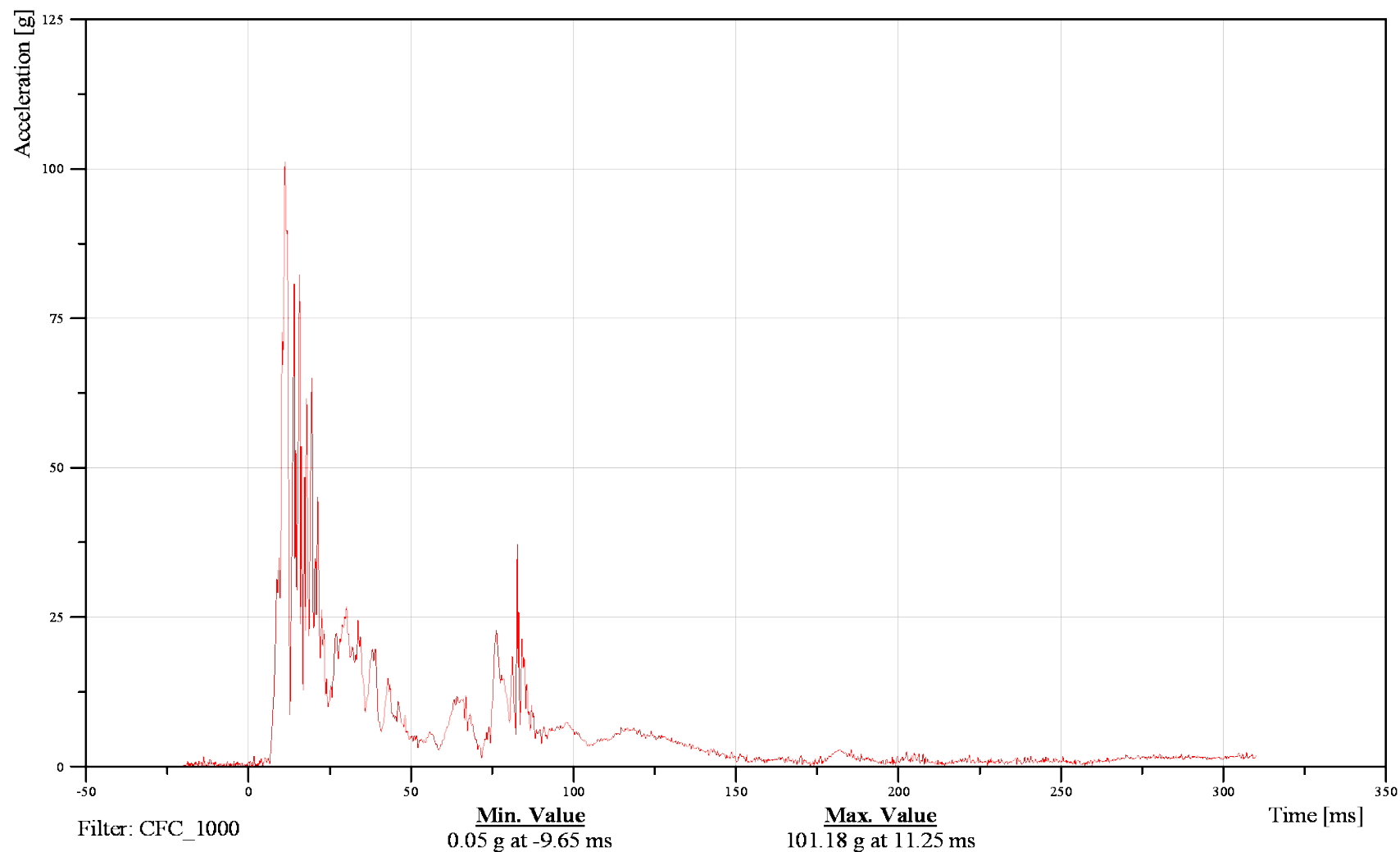
Time: 08:43

Customer: VRTC

11ABRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 Displacement Dy

Date: 06/17/2013

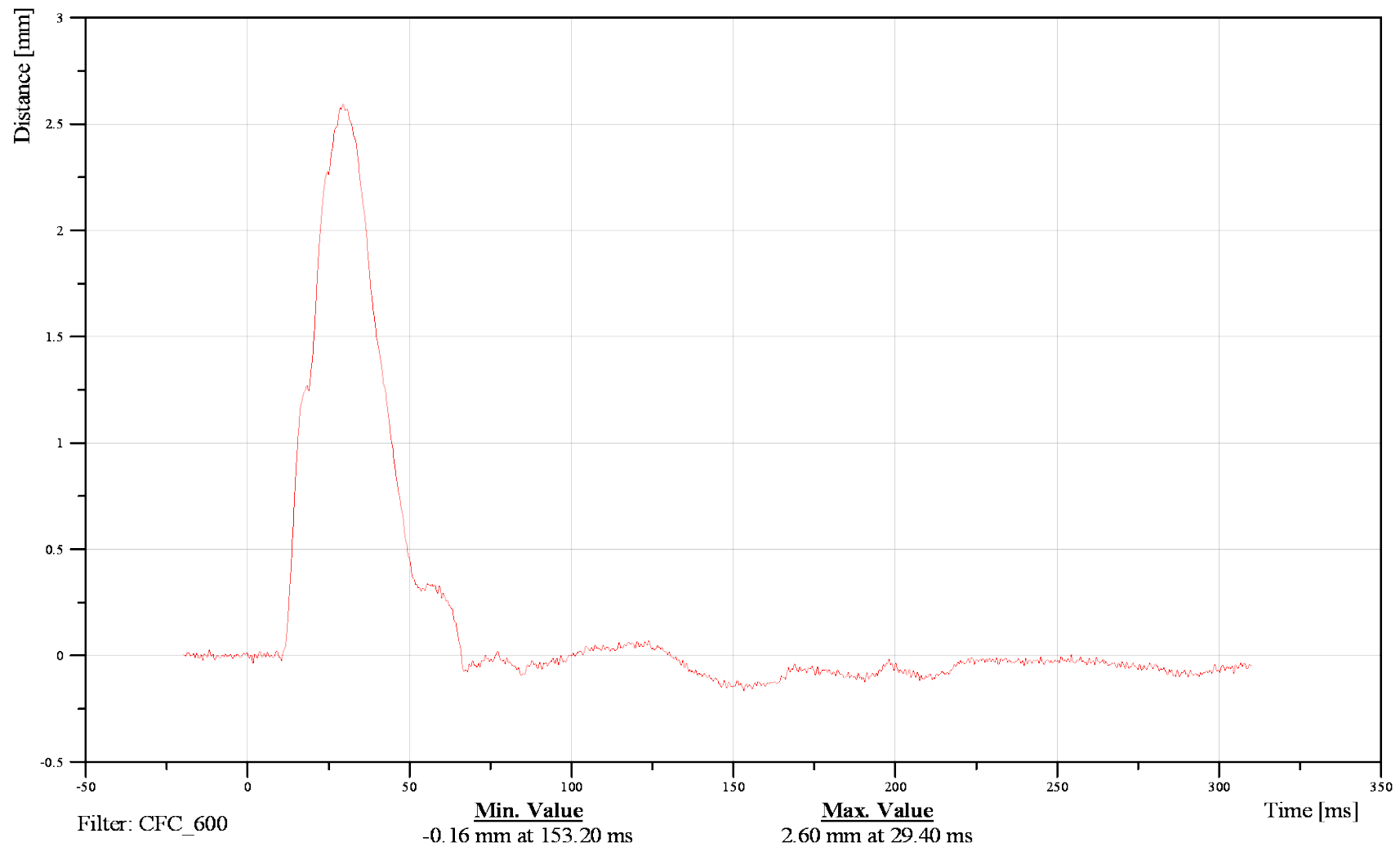
Time: 08:43

Customer: VRTC

11ABRILE01WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 Longitudinal Ax

Date: 06/17/2013

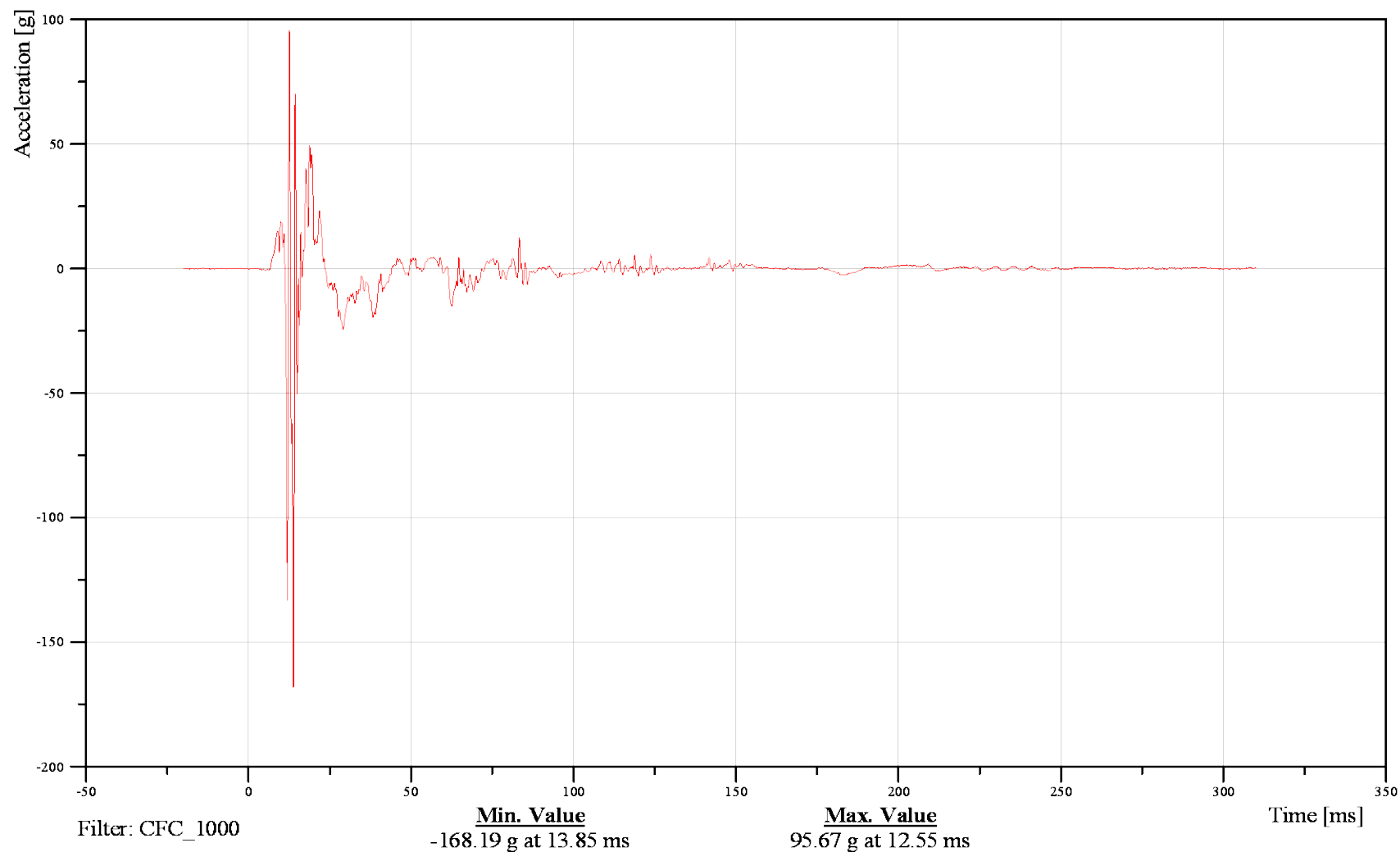
Time: 08:43

Customer: VRTC

11ABRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 Lateral Ay

Date: 06/17/2013

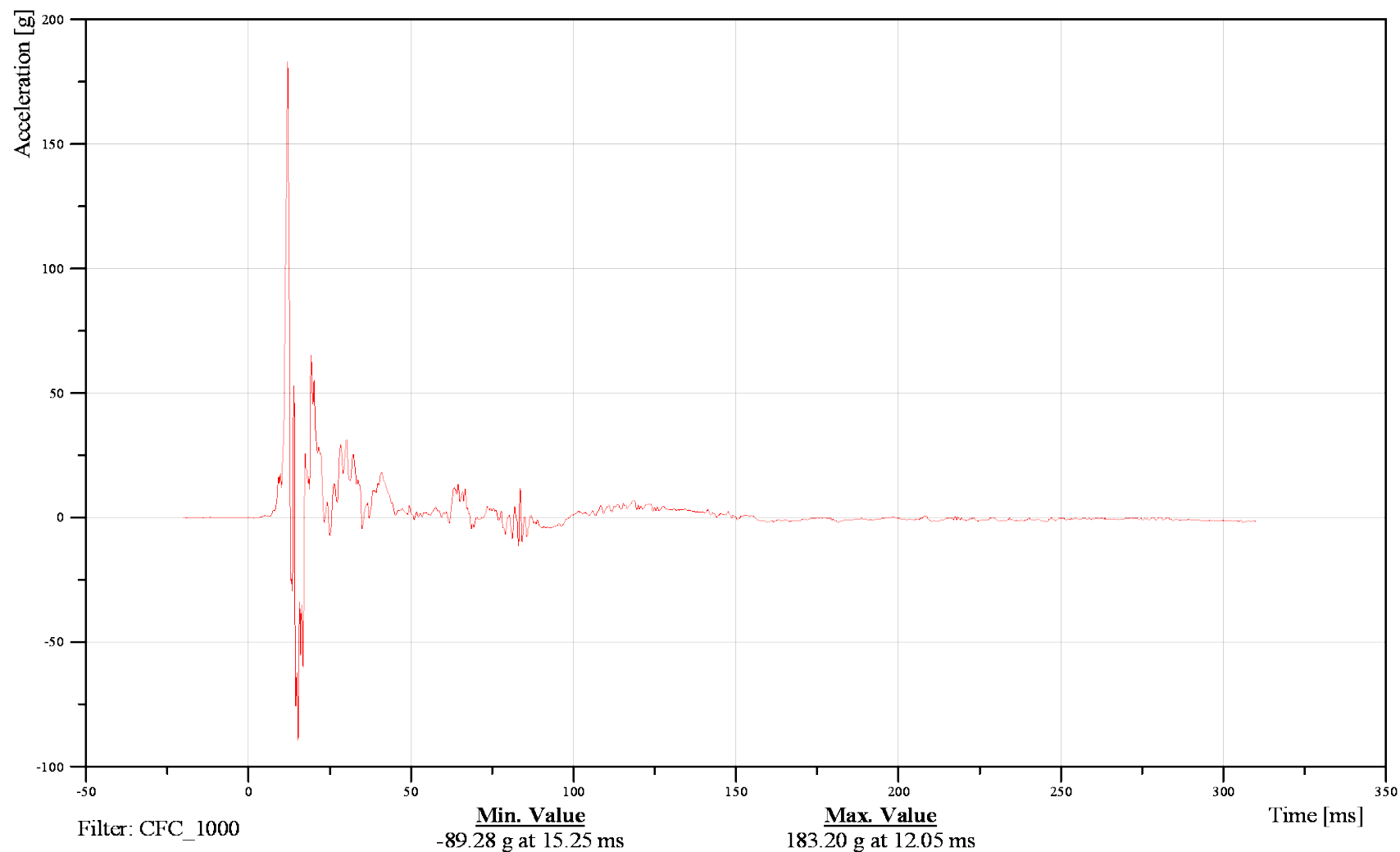
Time: 08:43

Customer: VRTC

11ABRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 Vertical Az

Date: 06/17/2013

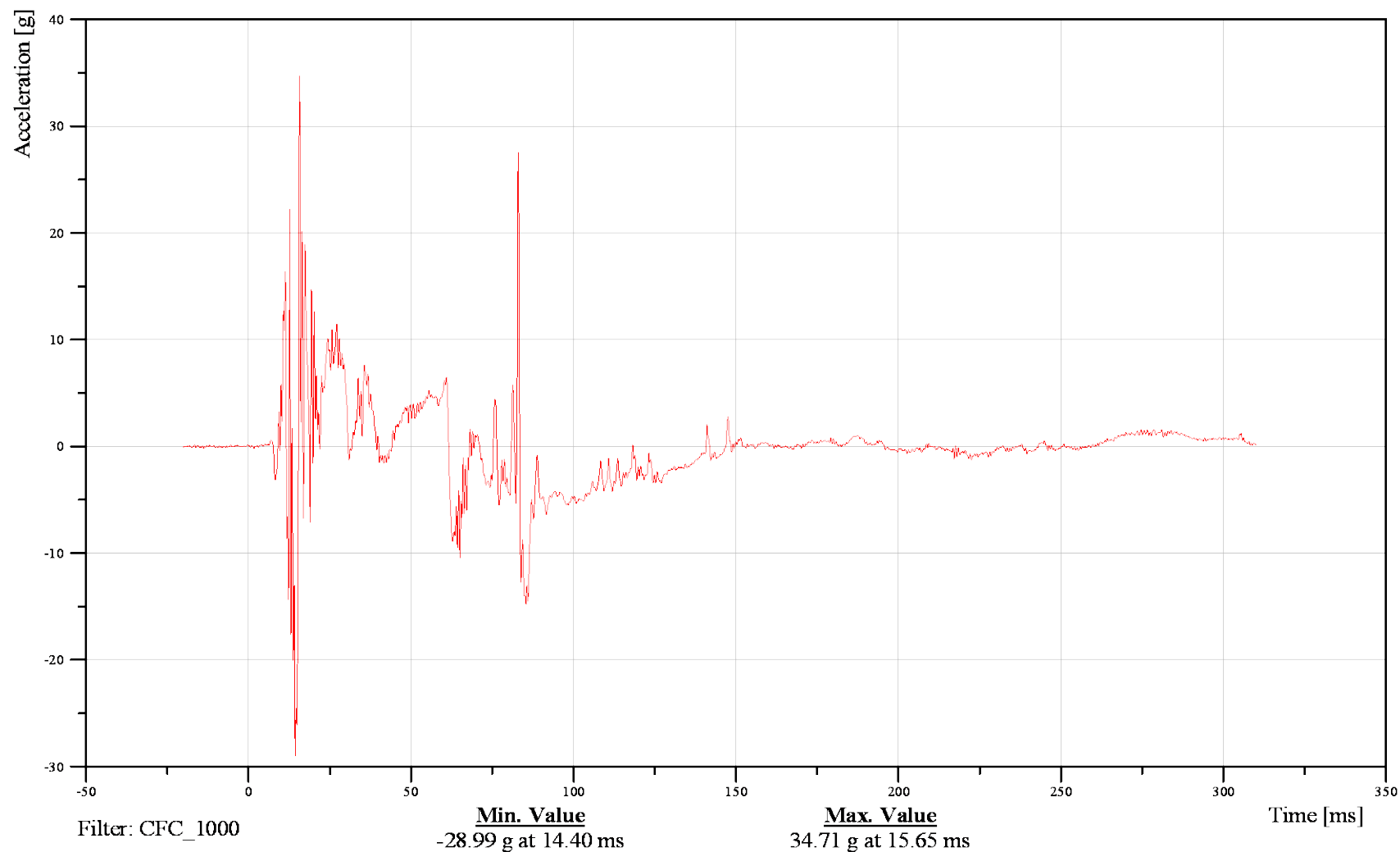
Time: 08:43

Customer: VRTC

11ABRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 A Resultant

Date: 06/17/2013

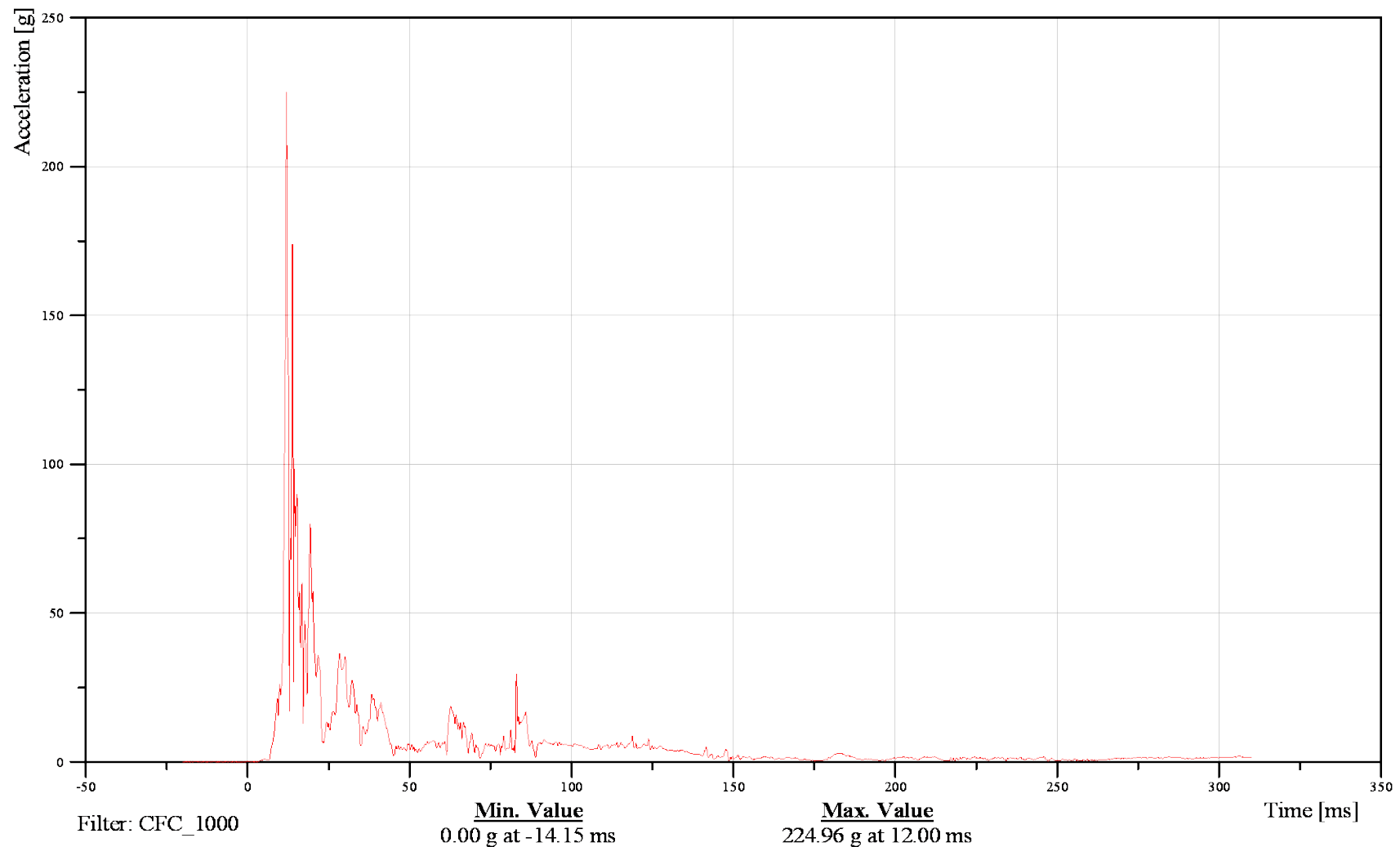
Time: 08:43

Customer: VRTC

11ABRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 Displacement Dy

Date: 06/17/2013

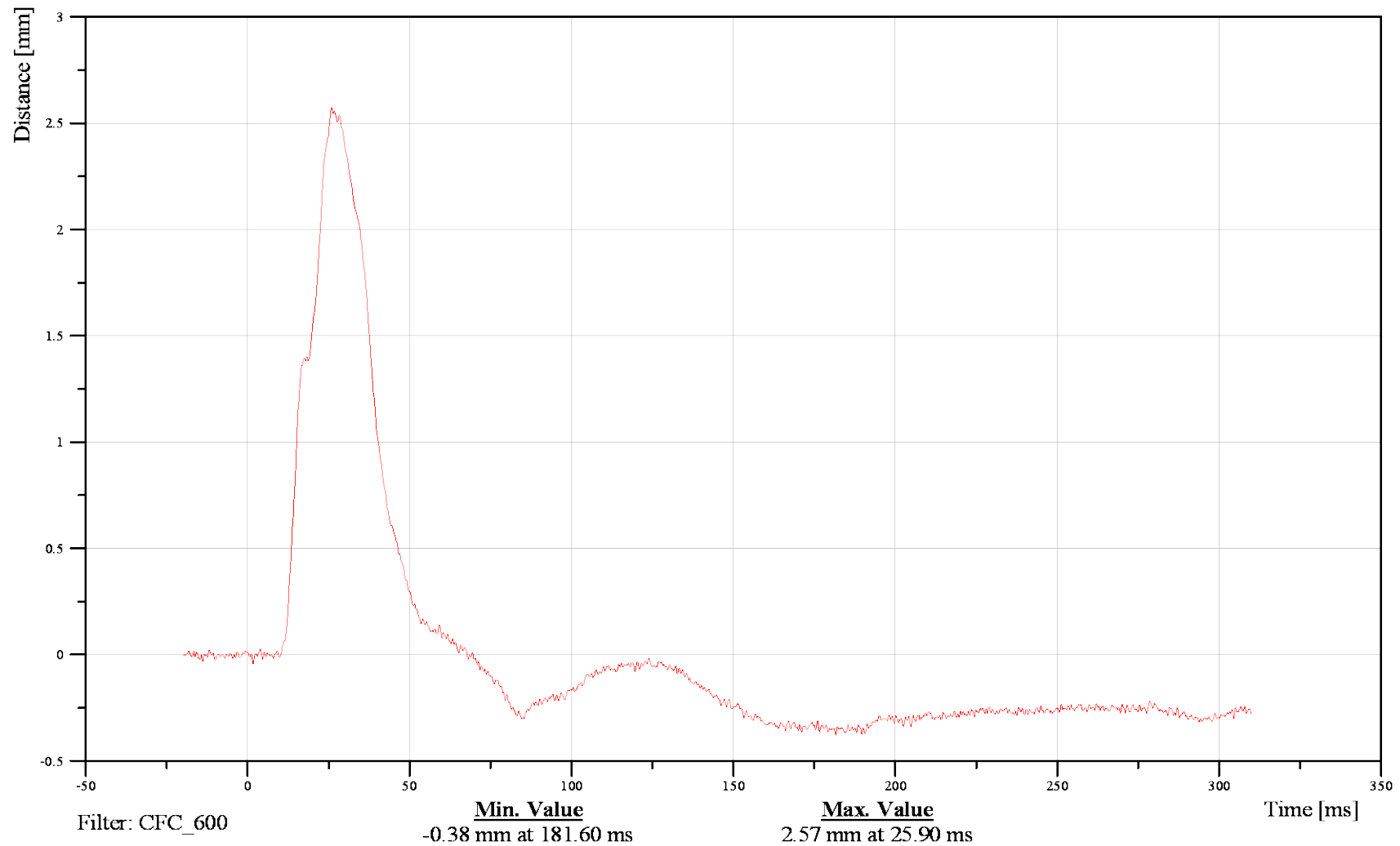
Time: 08:43

Customer: VRTC

11ABRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 Longitudinal Ax

Date: 06/17/2013

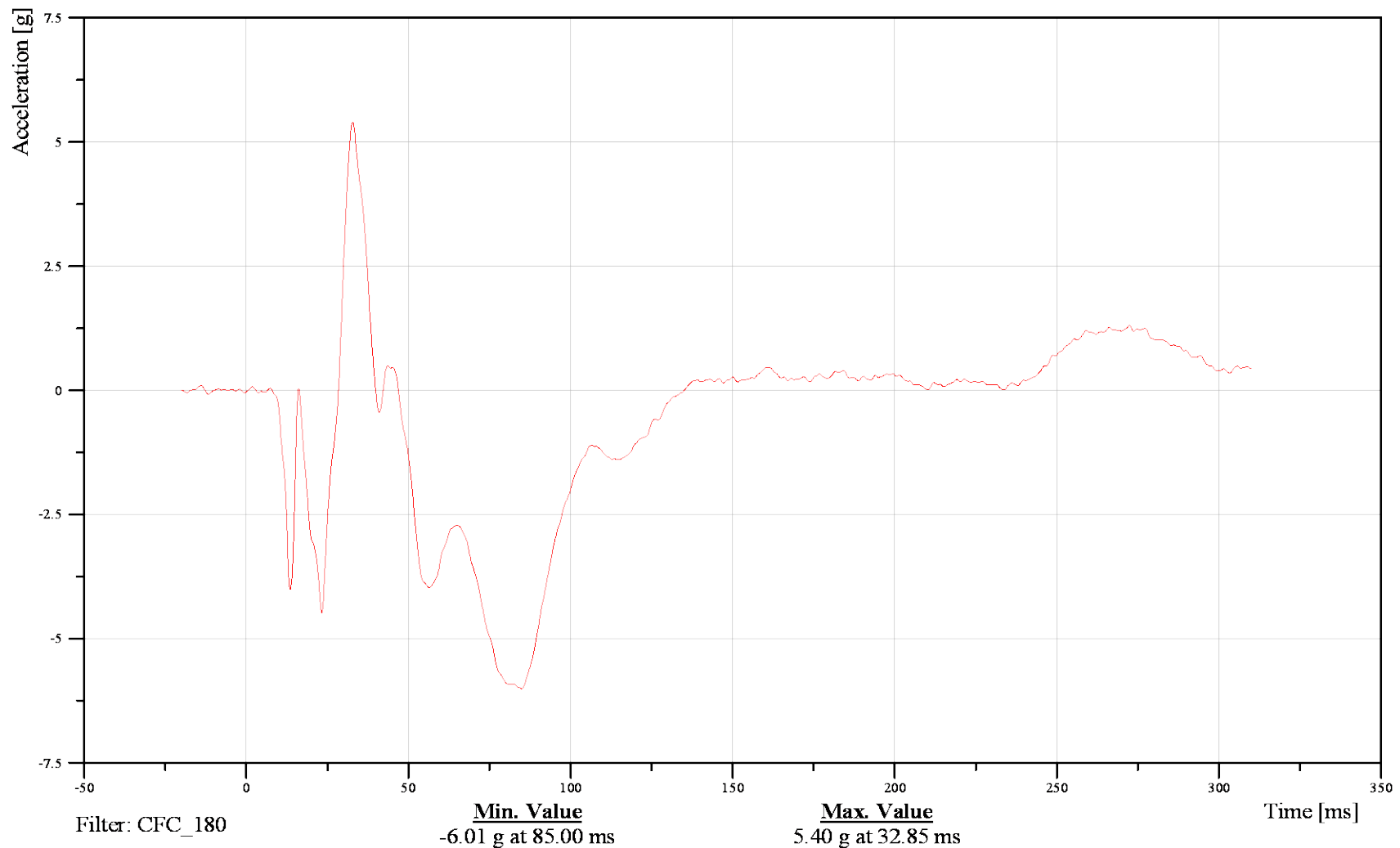
Time: 08:43

Customer: VRTC

11THSP0400WSACXC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 Lateral Ay

Date: 06/17/2013

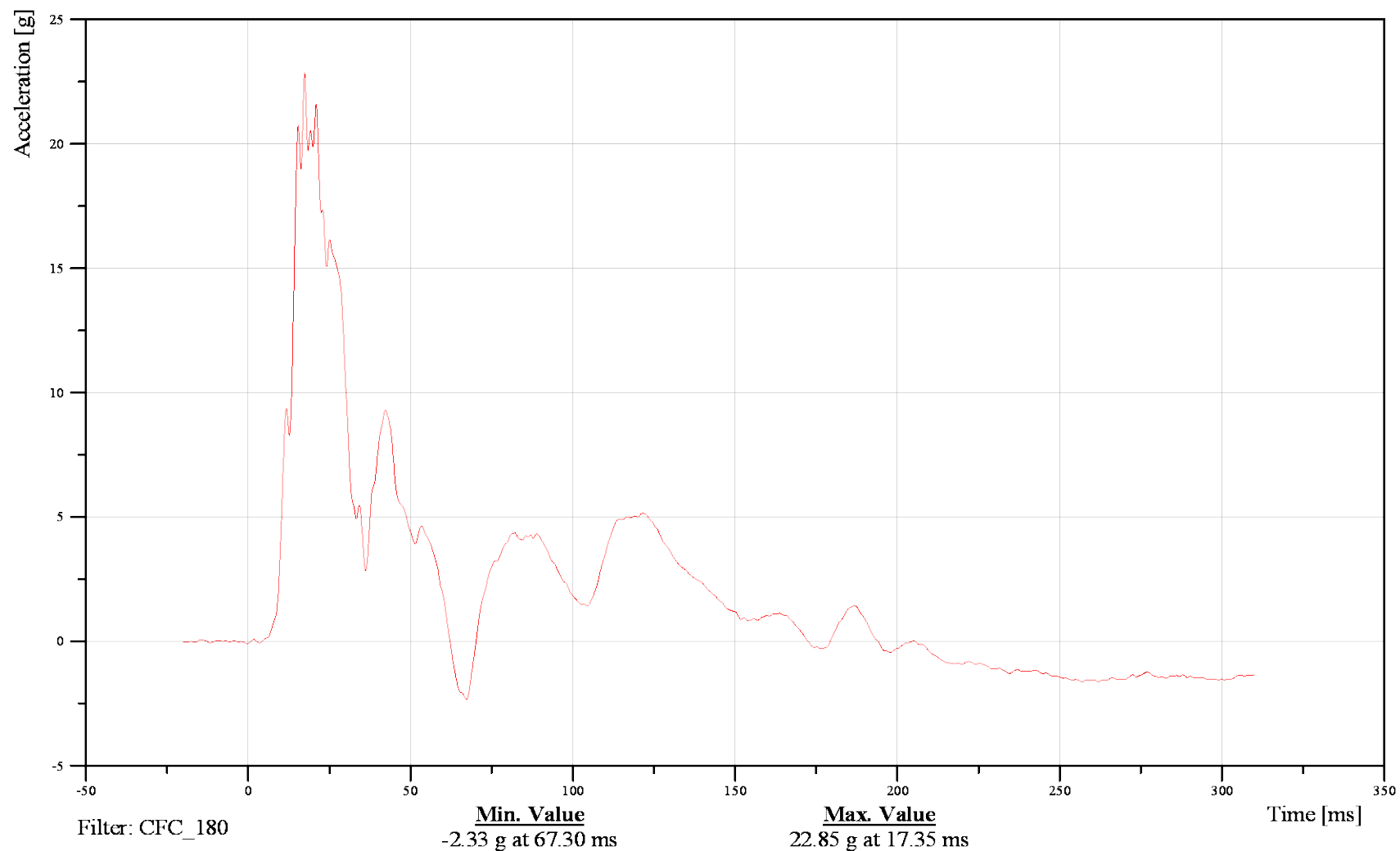
Time: 08:43

Customer: VRTC

11THSP0400WSACYC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 Vertical Az

Date: 06/17/2013

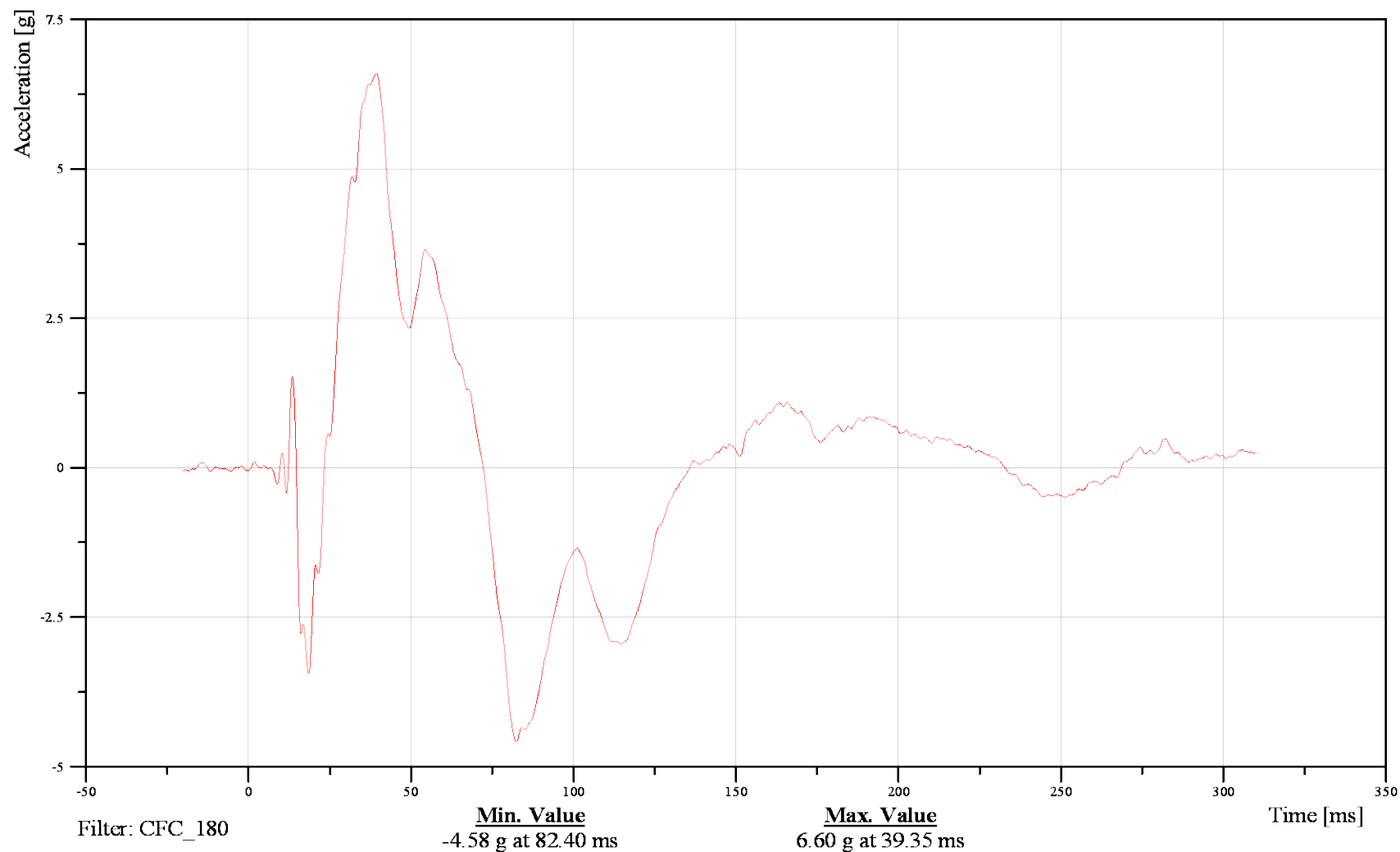
Time: 08:43

Customer: VRTC

11THSP0400WSACZC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 A Resultant

Date: 06/17/2013

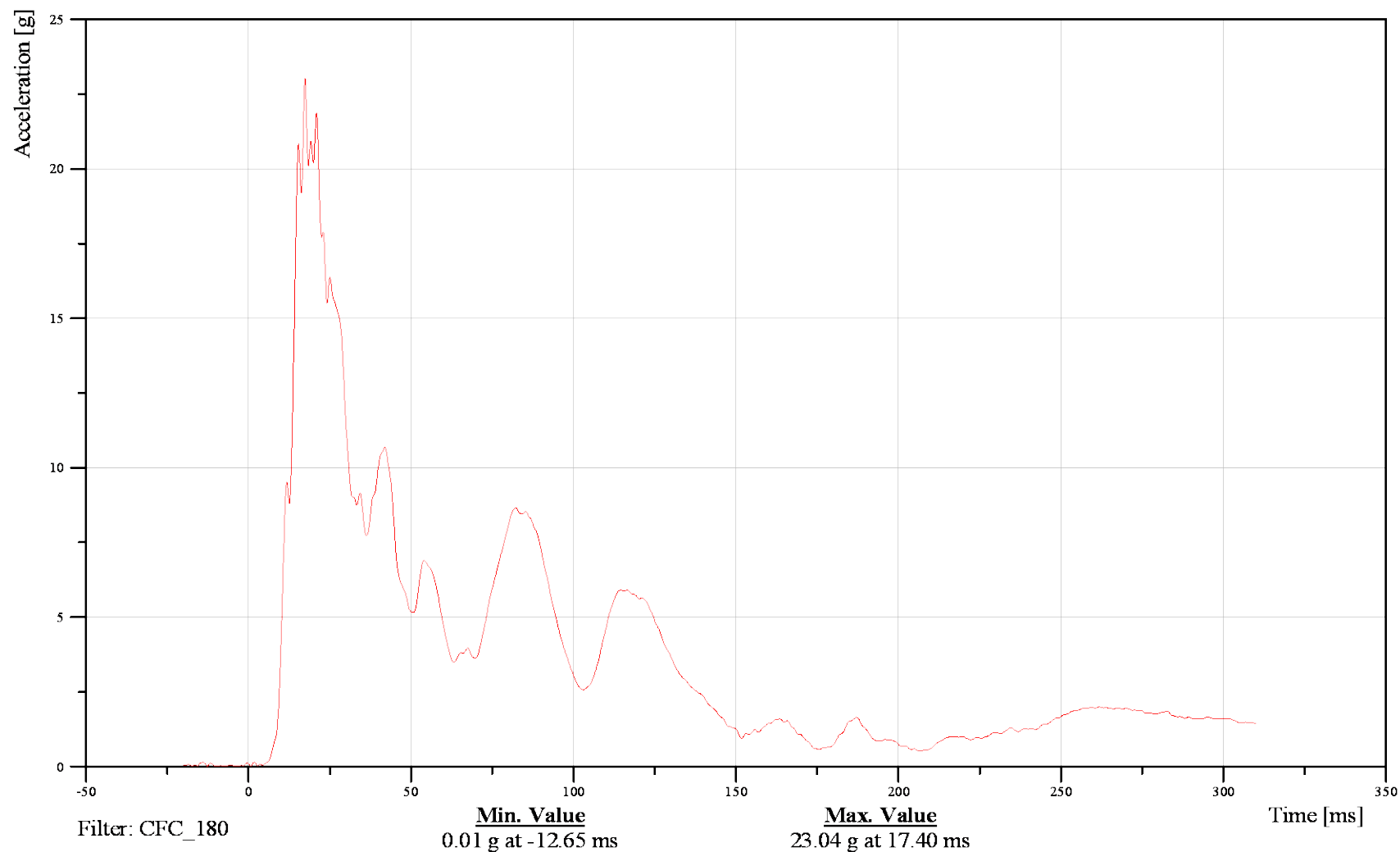
Time: 08:43

Customer: VRTC

11THSP0400WSACRC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 Longitudinal Ax

Date: 06/17/2013

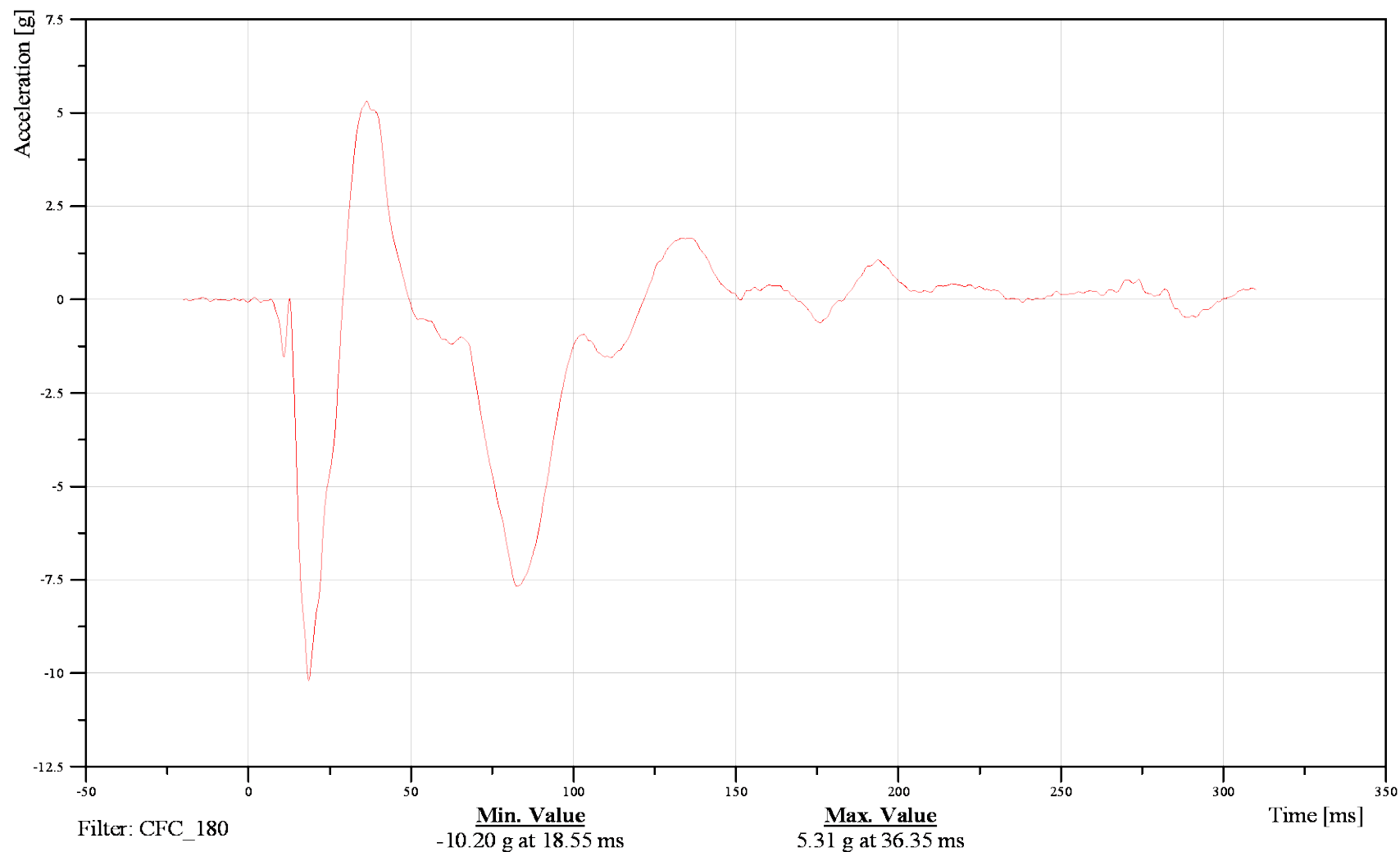
Time: 08:43

Customer: VRTC

11THSP1200WSACXC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 Lateral Ay

Date: 06/17/2013

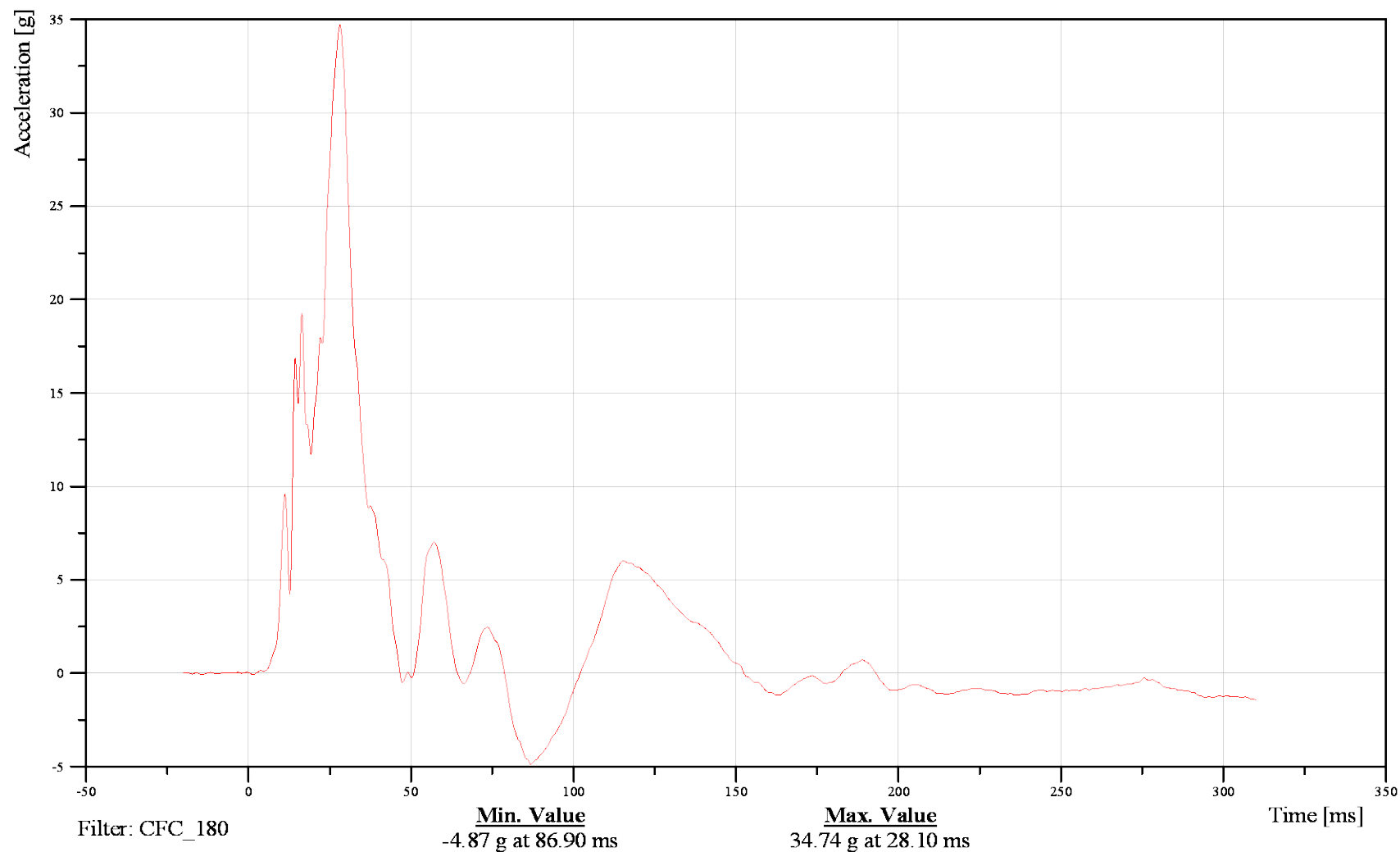
Time: 08:43

Customer: VRTC

11THSP1200WSACYC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 Vertical Az

Date: 06/17/2013

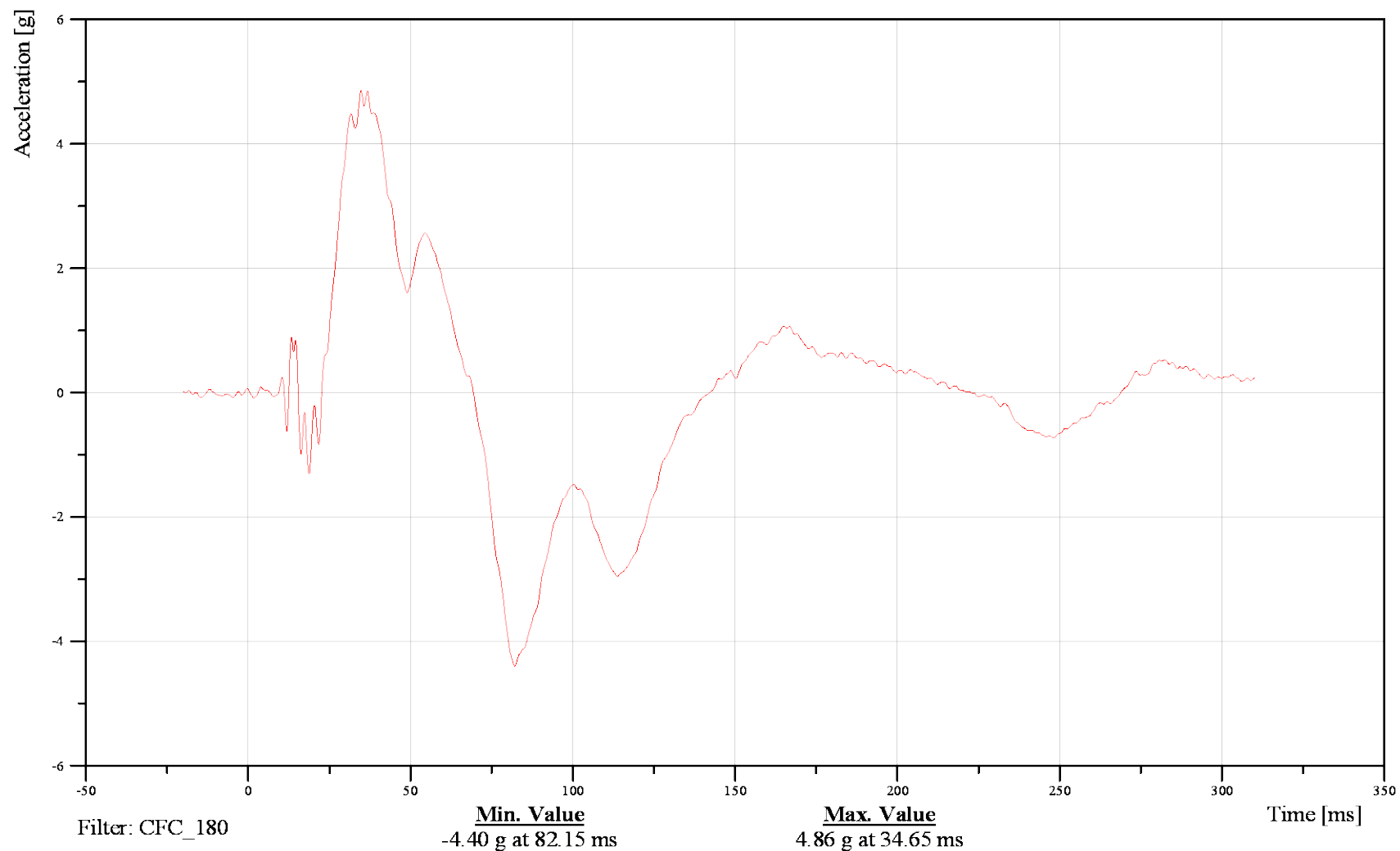
Time: 08:43

Customer: VRTC

11THSP1200WSACZC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 A Resultant

Date: 06/17/2013

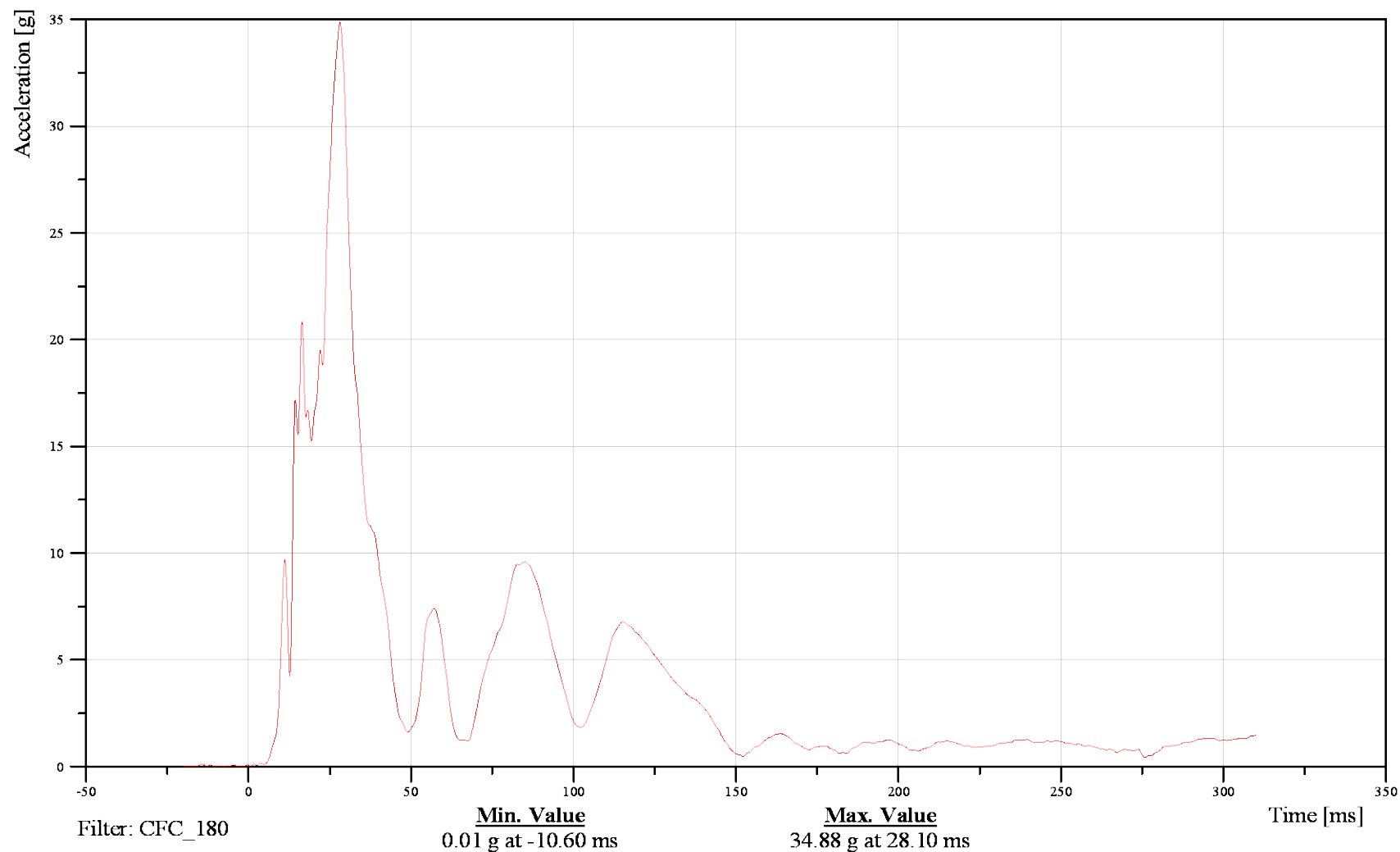
Time: 08:43

Customer: VRTC

11THSP1200WSACRC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Longitudinal Ax

Date: 06/17/2013

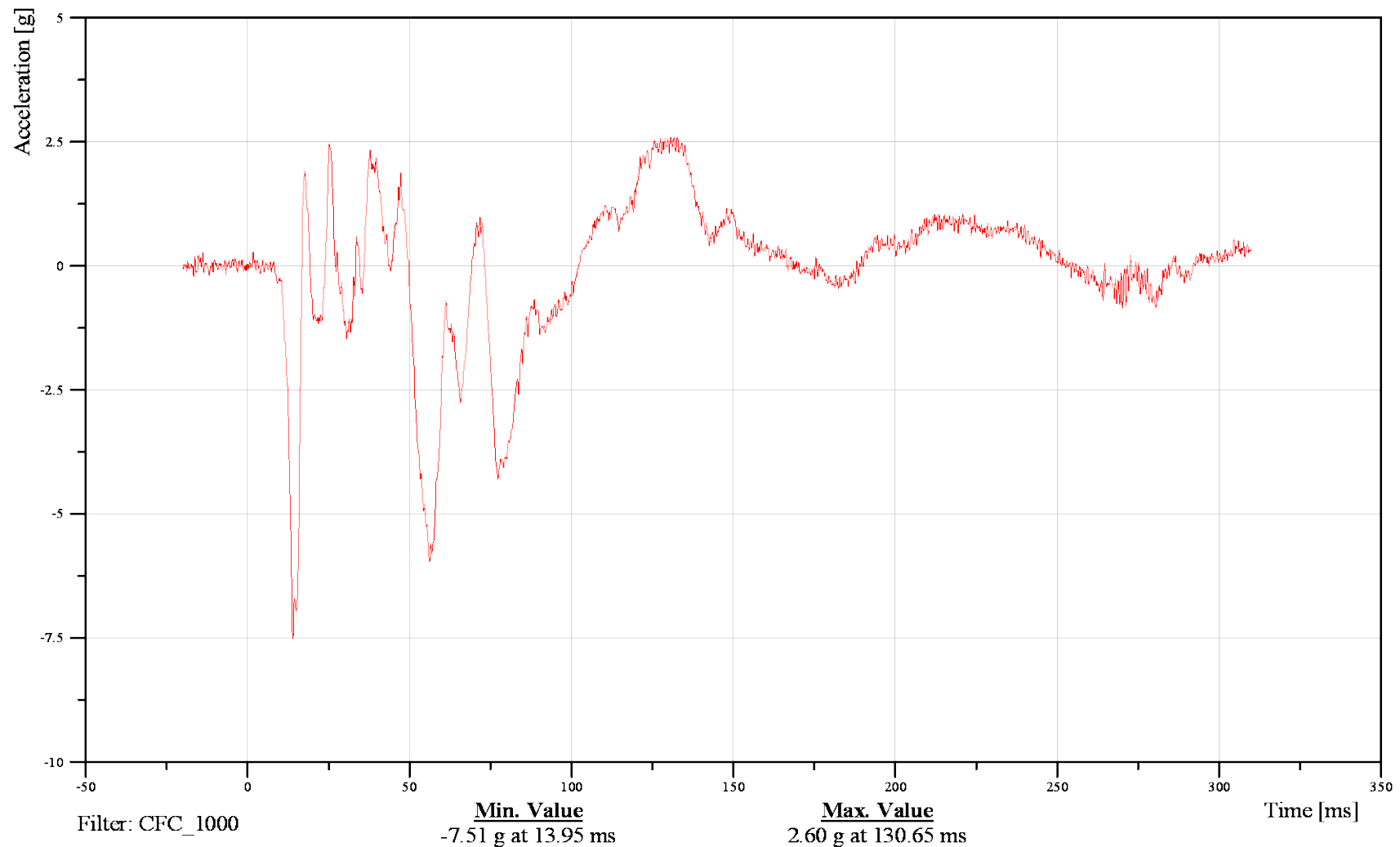
Time: 08:43

Customer: VRTC

11PELV0000WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Lateral Ay

Date: 06/17/2013

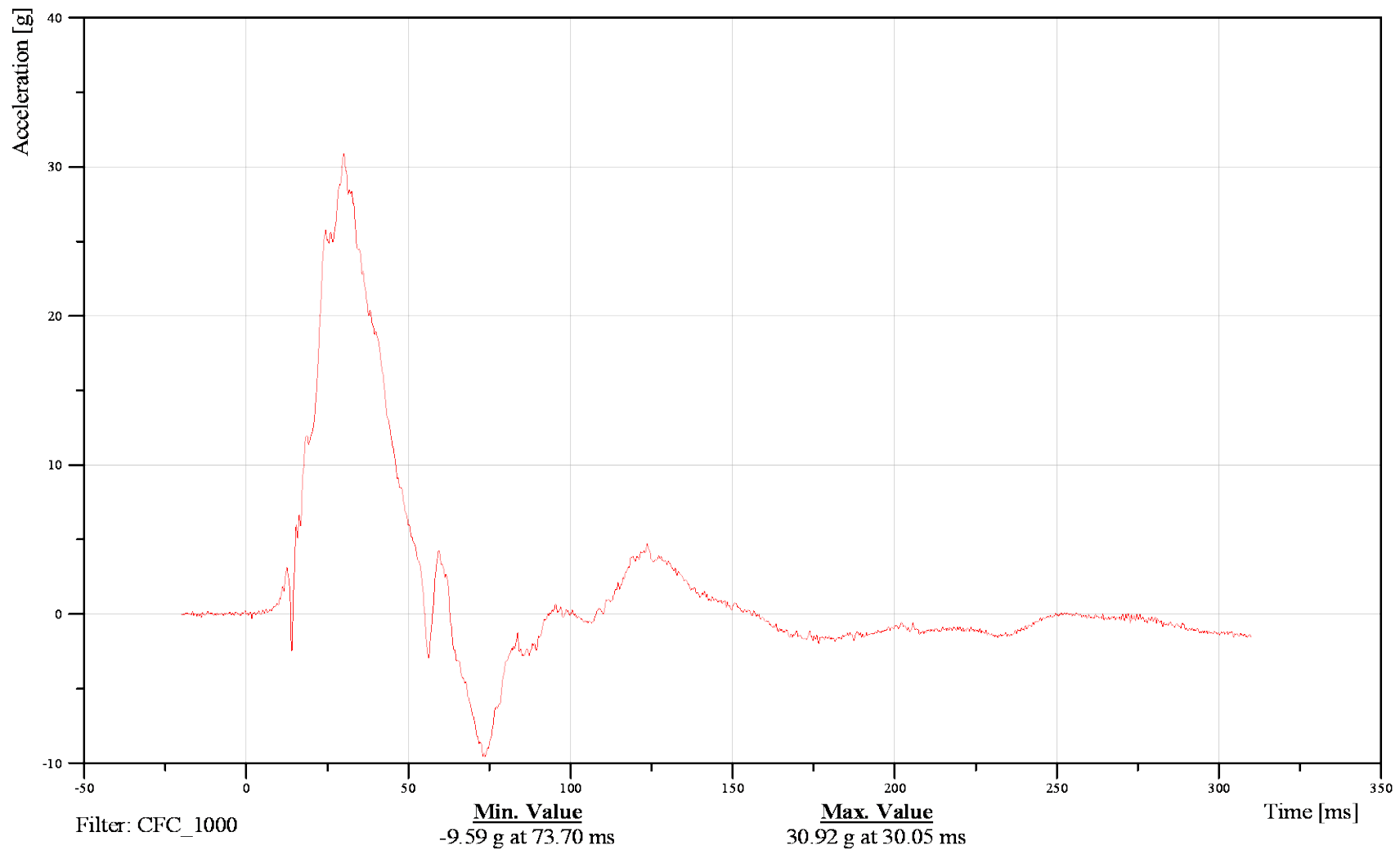
Time: 08:43

Customer: VRTC

11PELV0000WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Vertical Az

Date: 06/17/2013

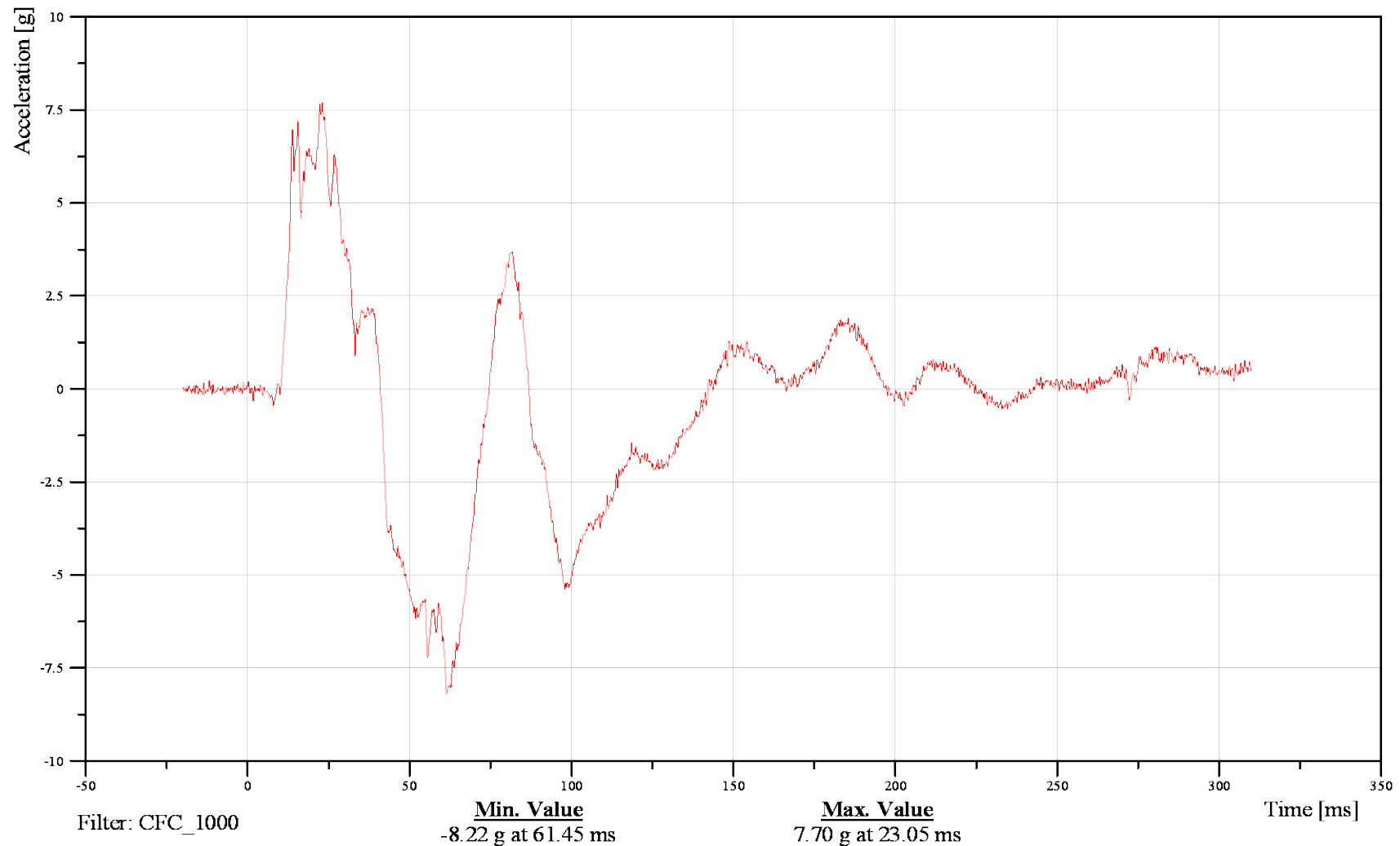
Time: 08:43

Customer: VRTC

11PELV0000WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis A Resultant

Date: 06/17/2013

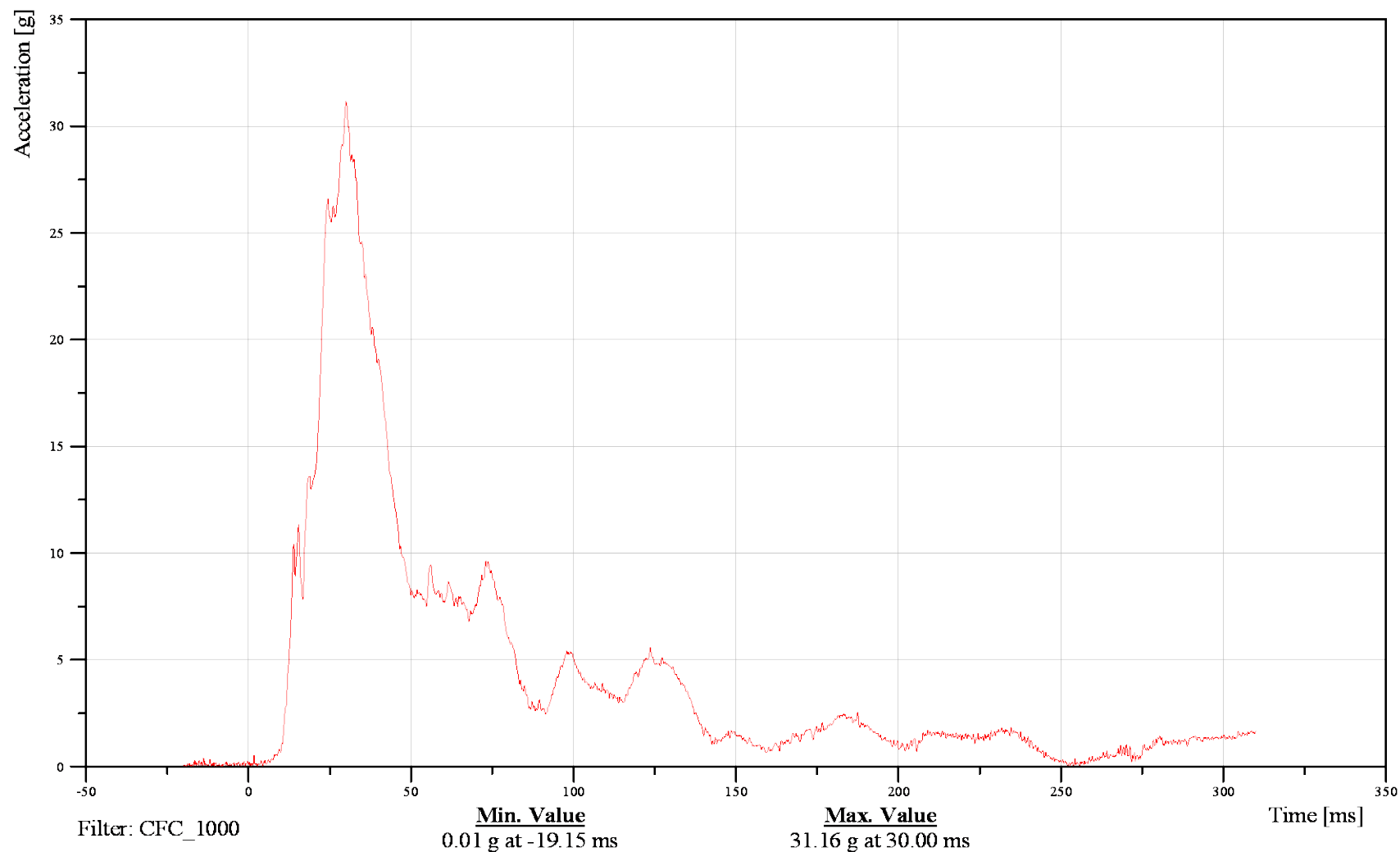
Time: 08:43

Customer: VRTC

11PELV0000WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pubic Force Fy

Date: 06/17/2013

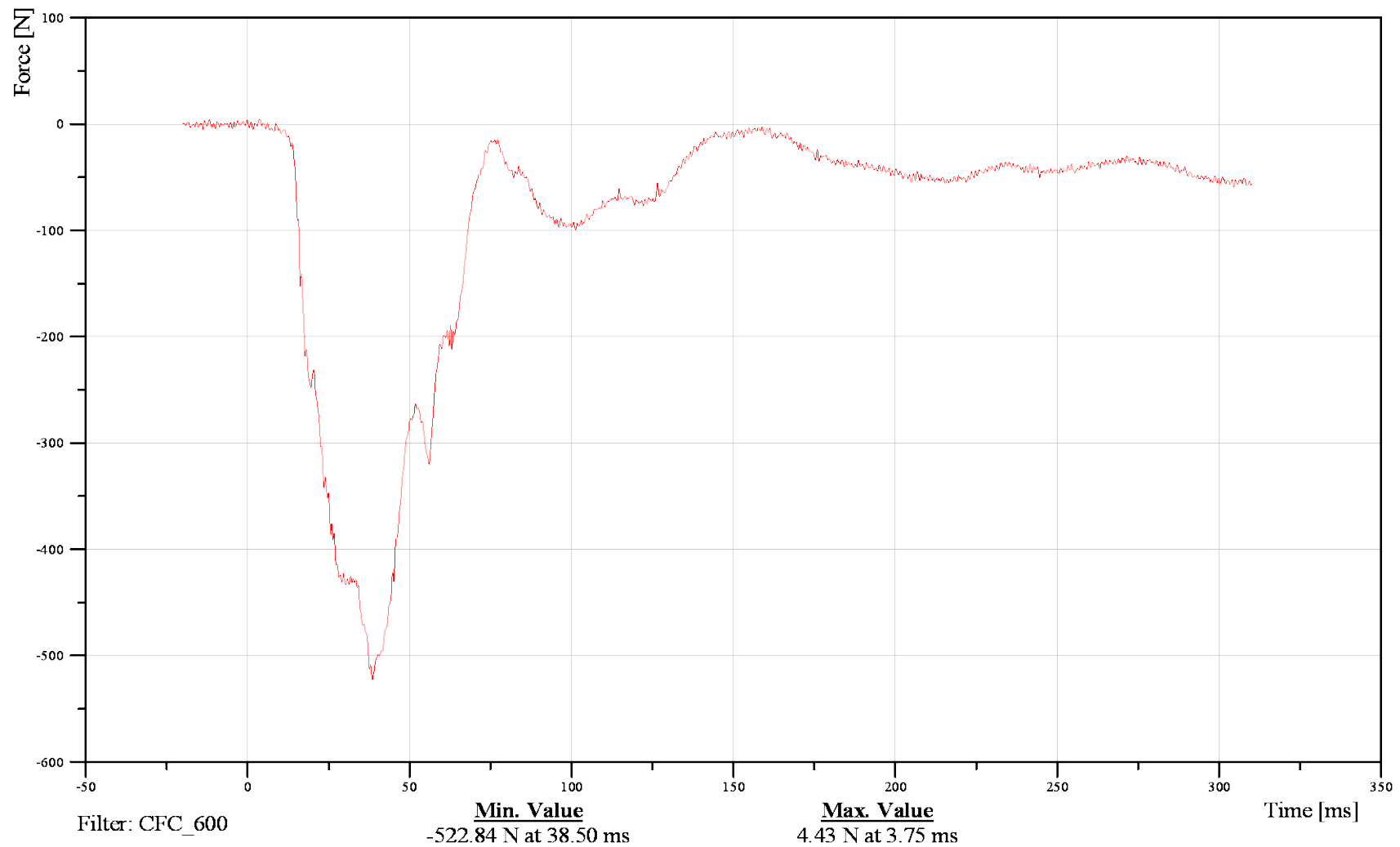
Time: 08:43

Customer: VRTC

11PUBC0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Lumbar Force Fx

Date: 06/17/2013

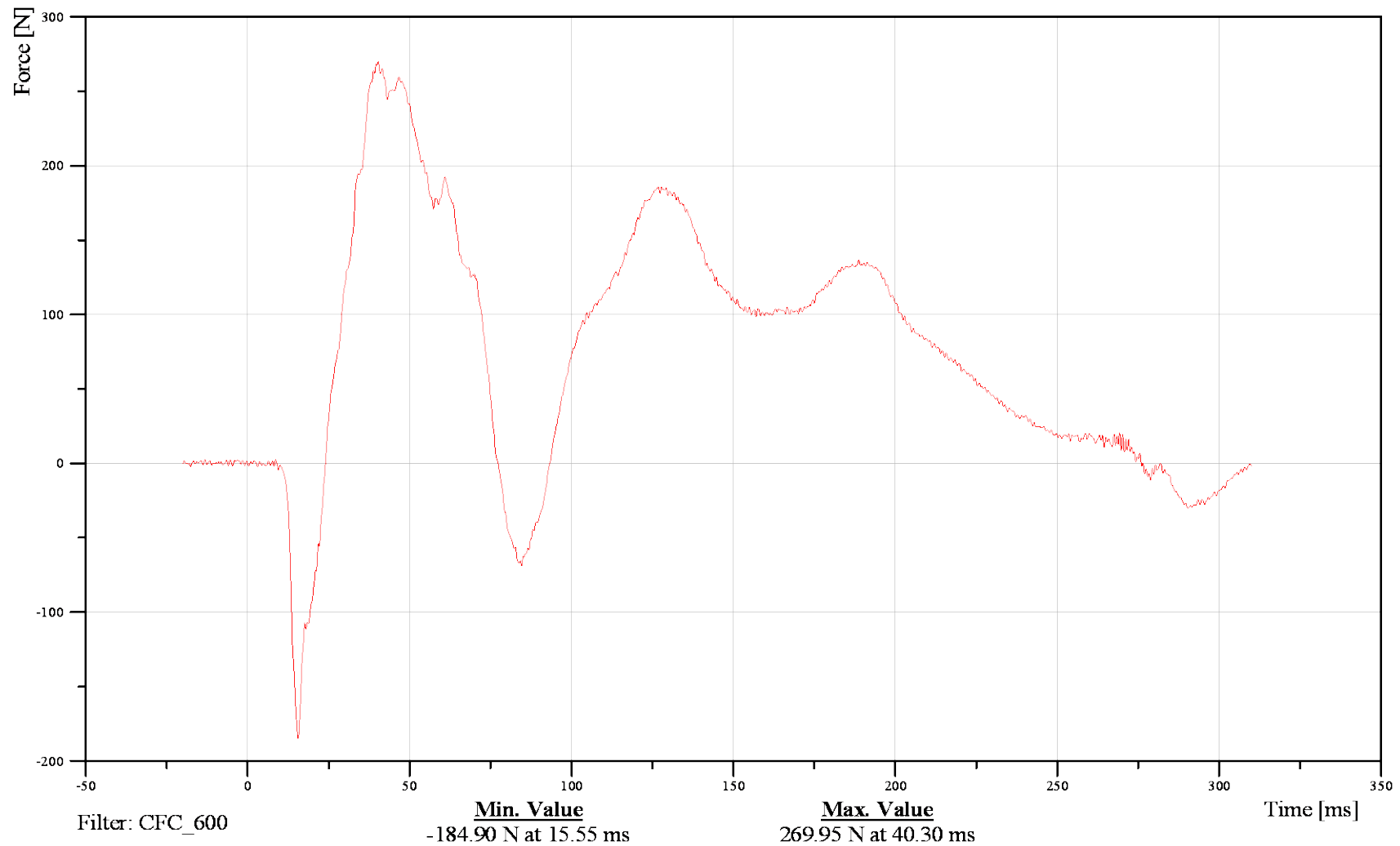
Time: 08:43

Customer: VRTC

11LUSP0000WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Lumbar Force Fy

Date: 06/17/2013

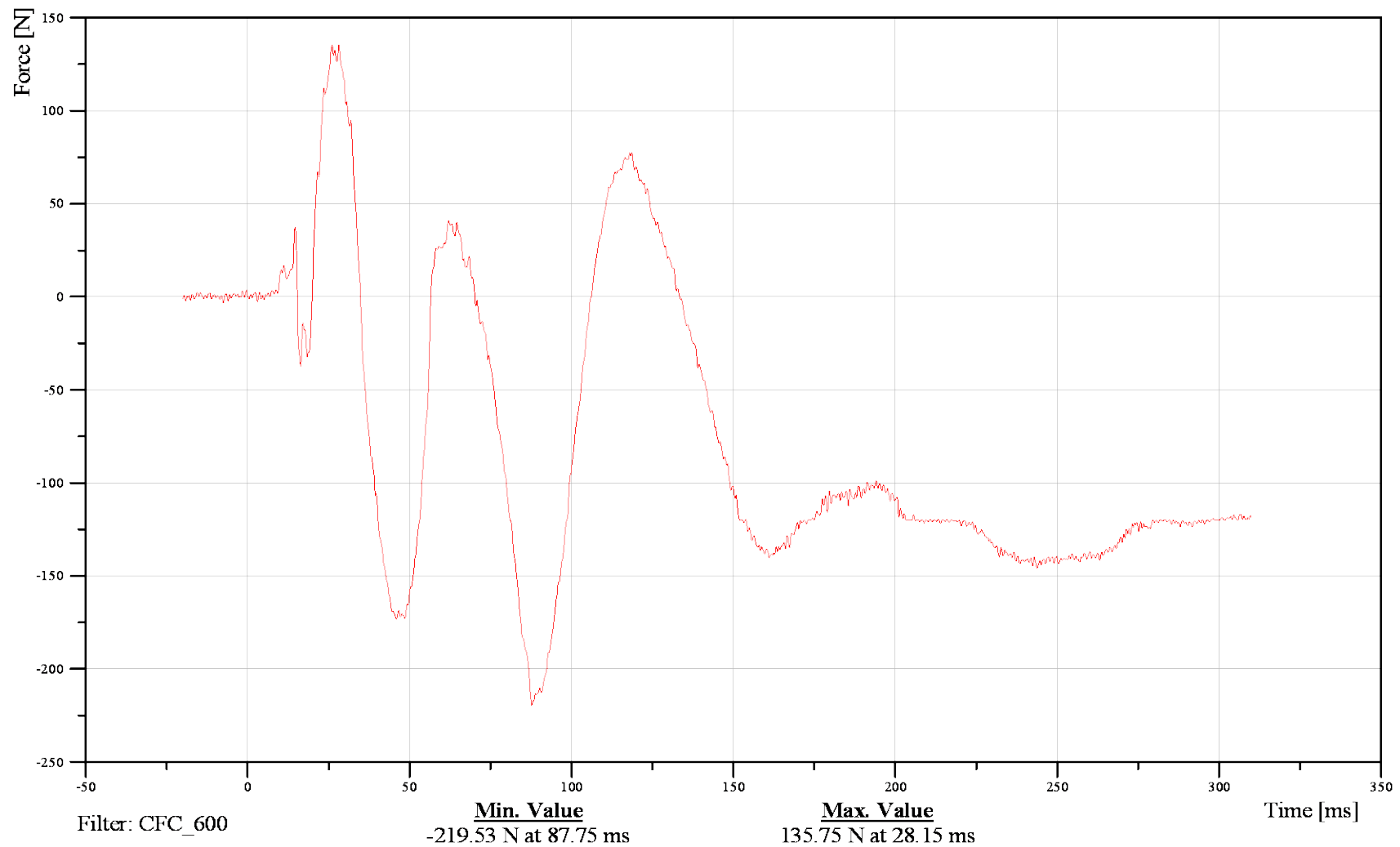
Time: 08:43

Customer: VRTC

11LUSP0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Lumbar Force Fz

Date: 06/17/2013

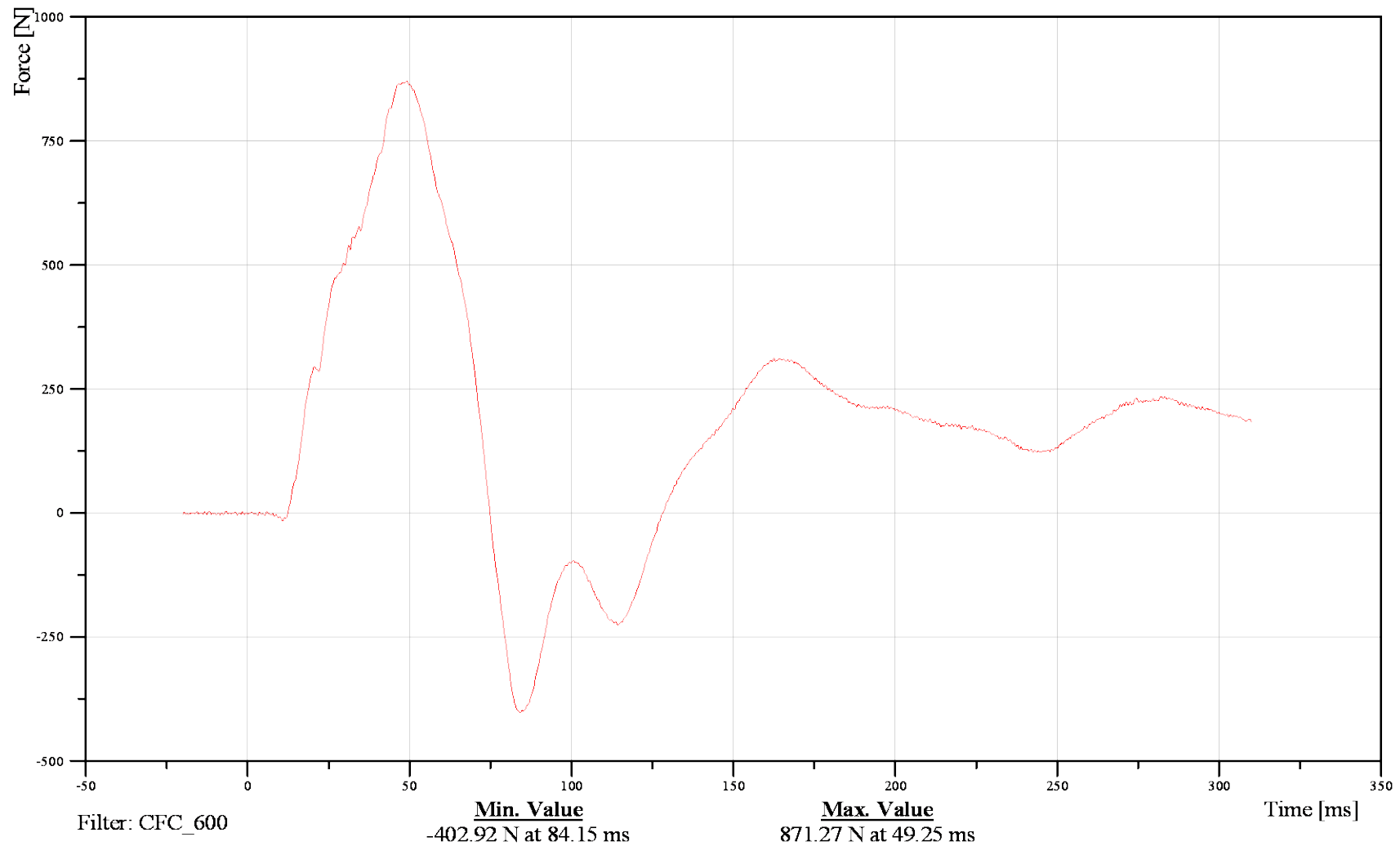
Time: 08:43

Customer: VRTC

11LUSP0000WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Lumbar Moment Mx

Date: 06/17/2013

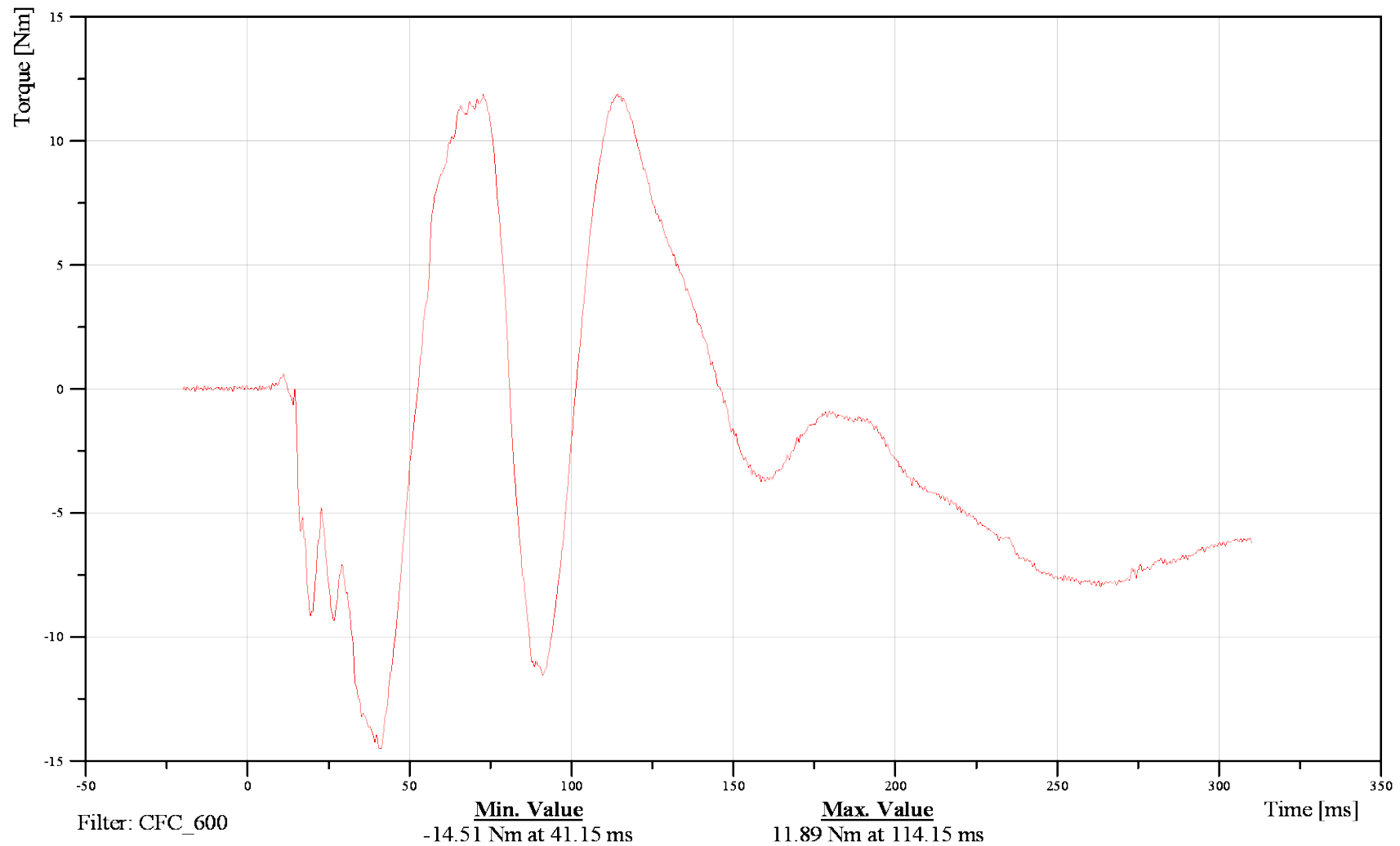
Time: 08:43

Customer: VRTC

11LUSP0000WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Lumbar Moment My

Date: 06/17/2013

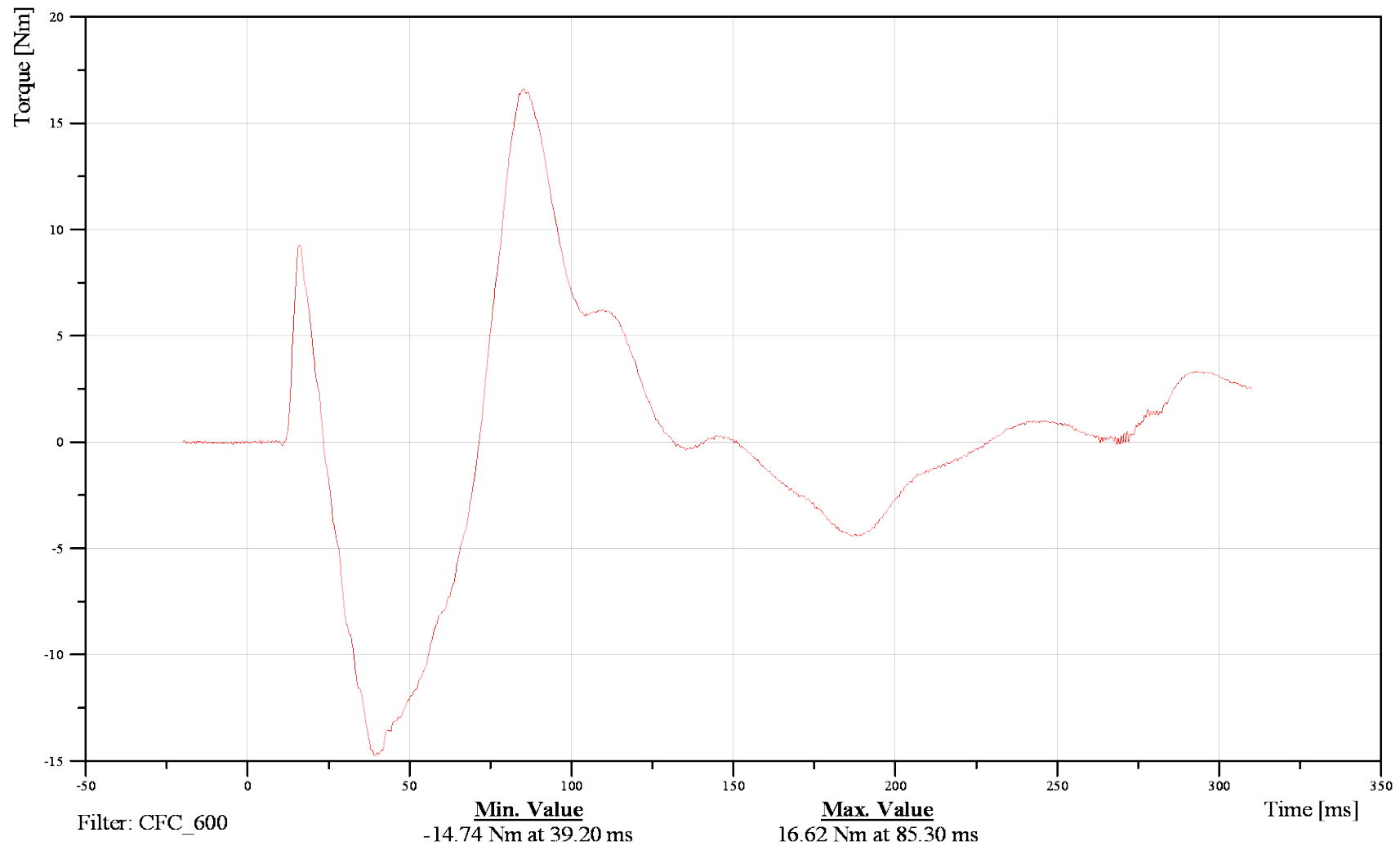
Time: 08:43

Customer: VRTC

11LUSP0000WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Lumbar Moment Mz

Date: 06/17/2013

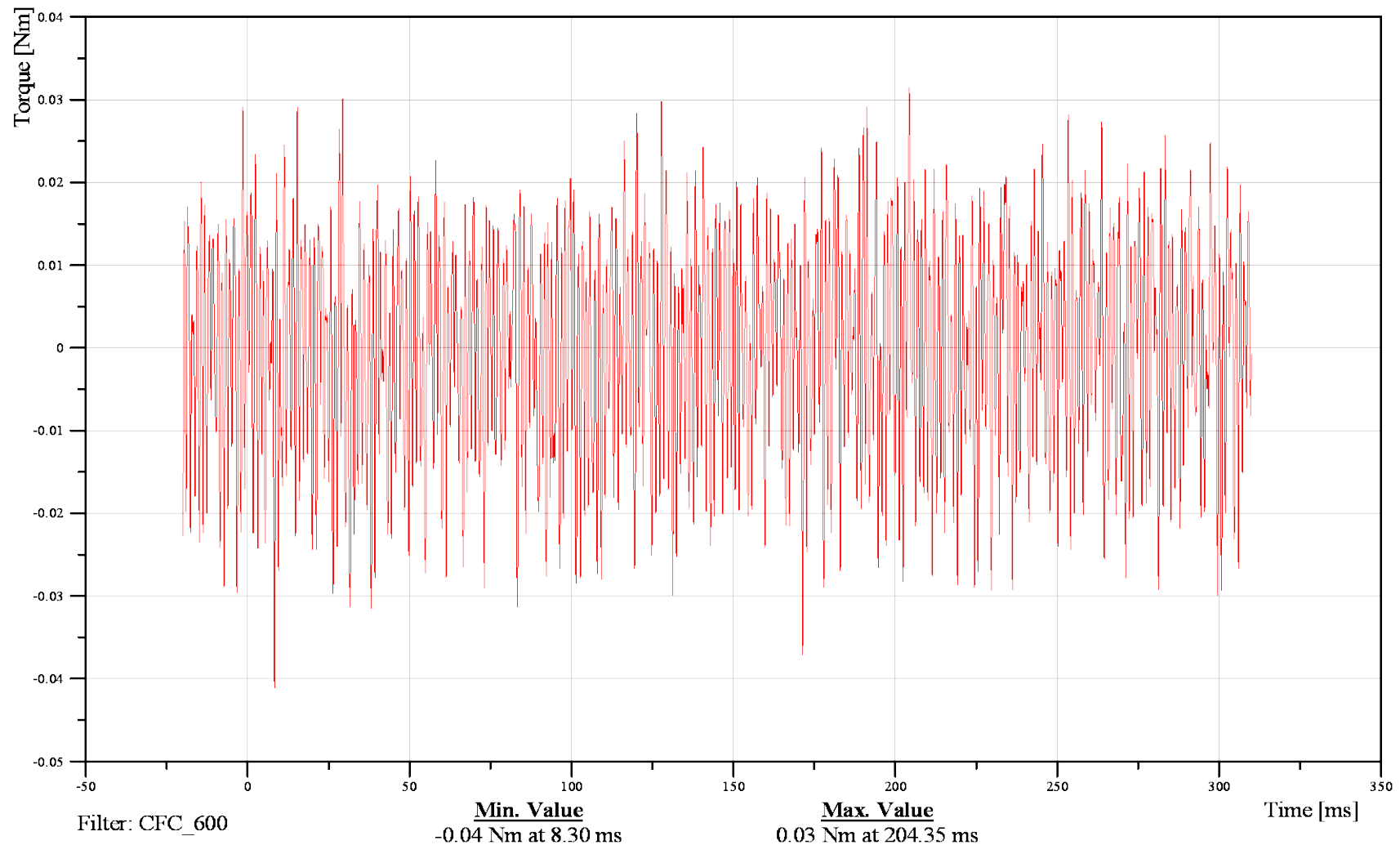
Time: 08:43

Customer: VRTC

11LUSP0000WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Right Moment Mx

Date: 06/17/2013

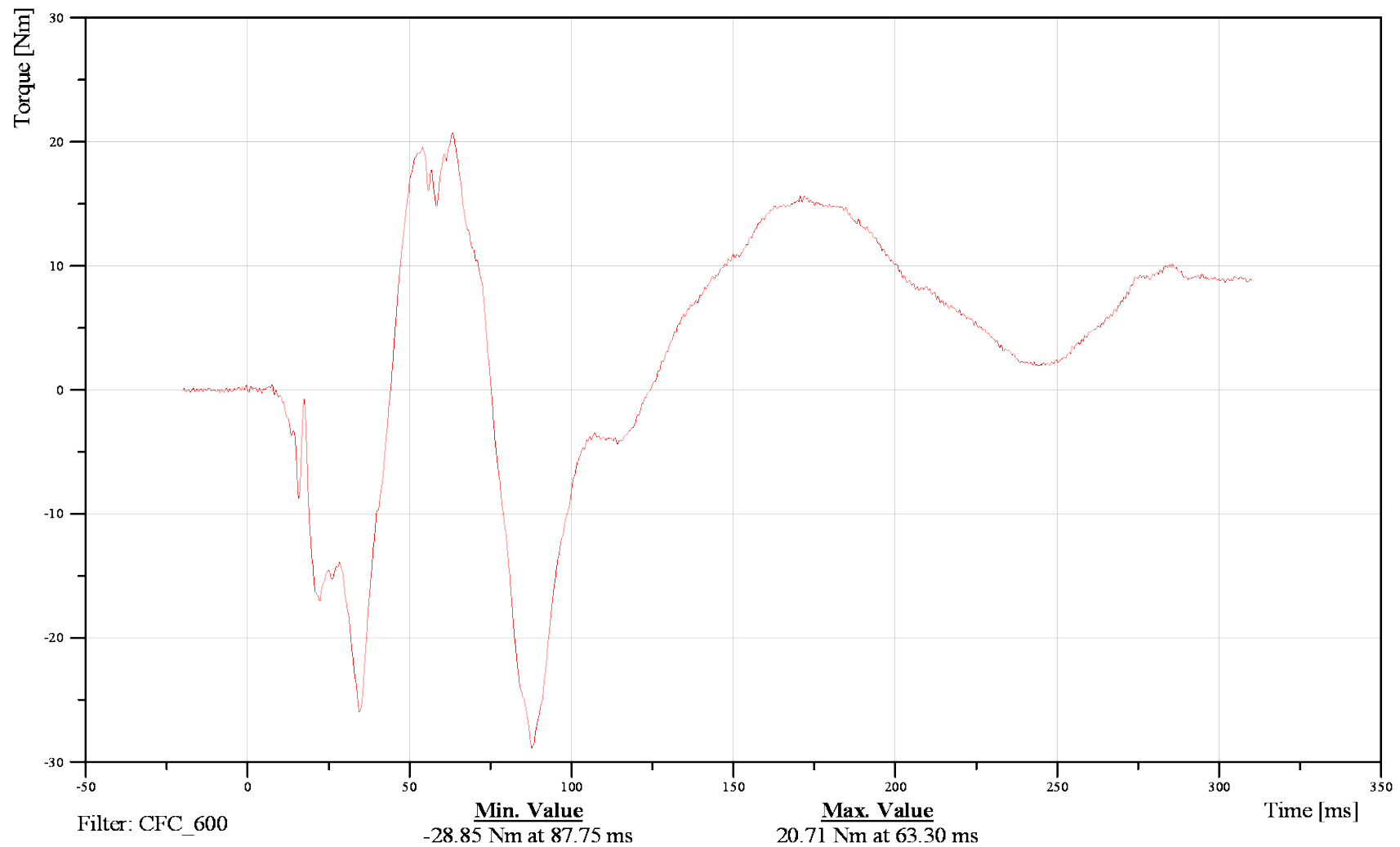
Time: 08:43

Customer: VRTC

11SACRRI00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Right Moment My

Date: 06/17/2013

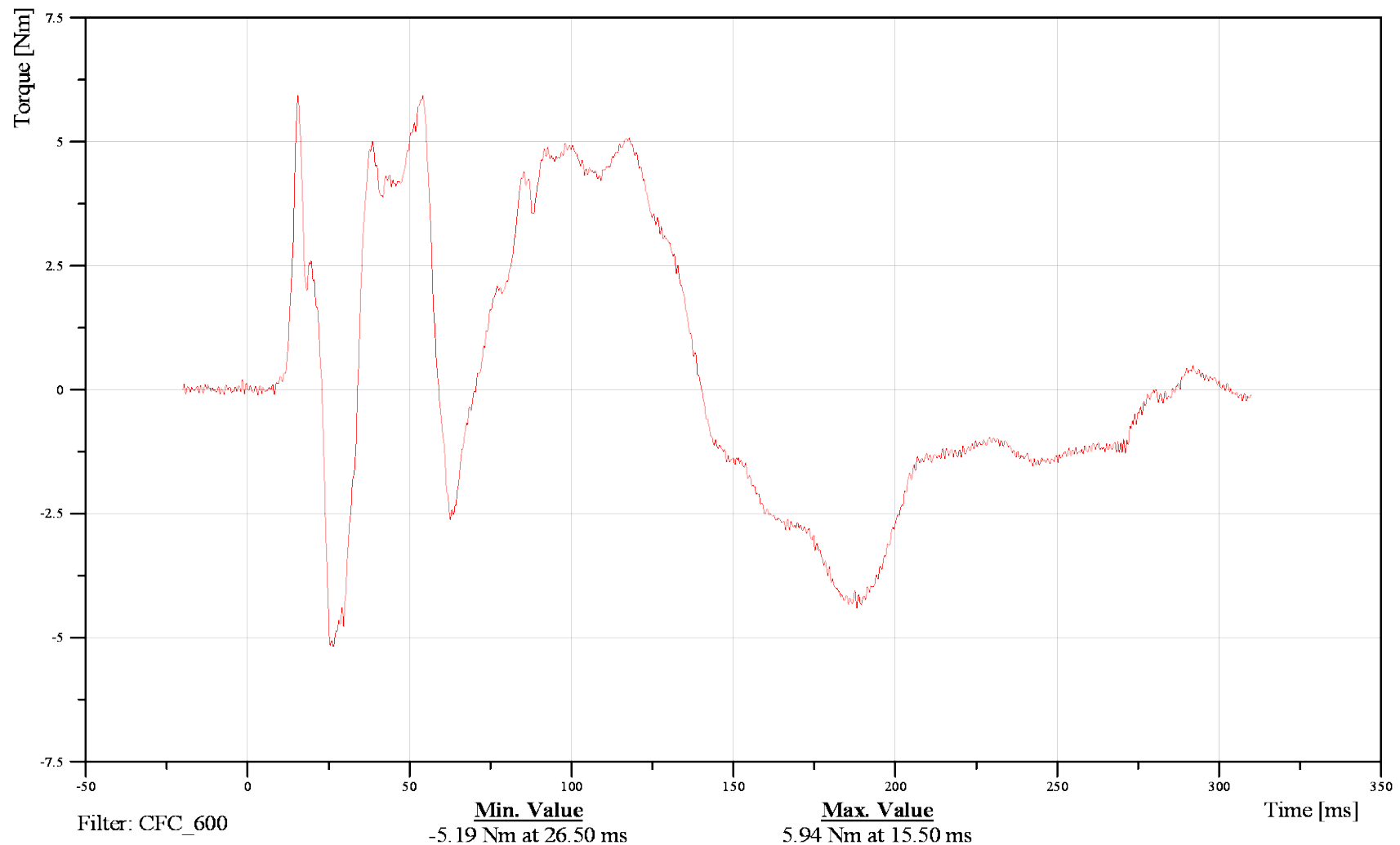
Time: 08:43

Customer: VRTC

11SACRRI00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Right Moment Mz

Date: 06/17/2013

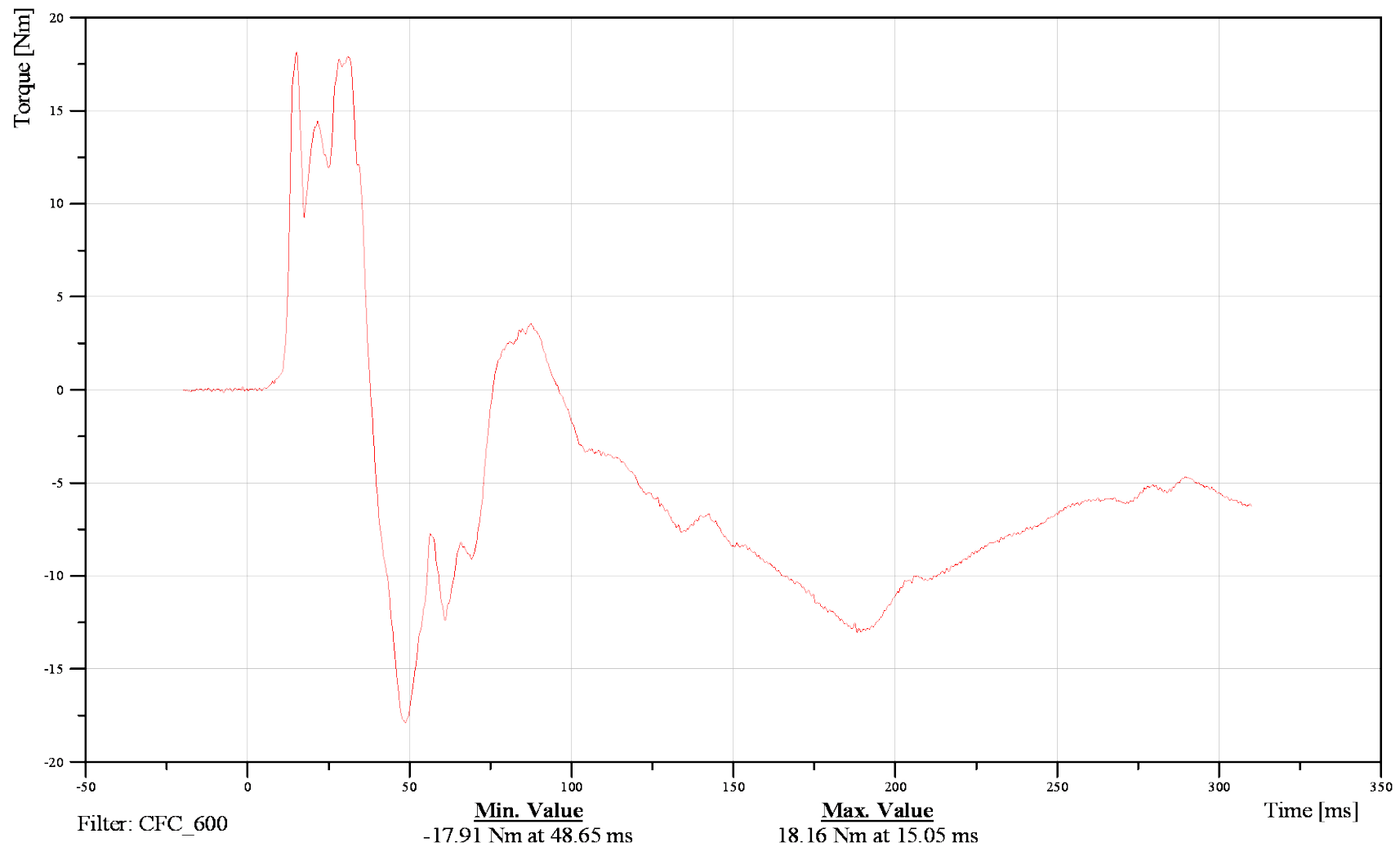
Time: 08:43

Customer: VRTC

11SACRRI00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Right Force Fx

Date: 06/17/2013

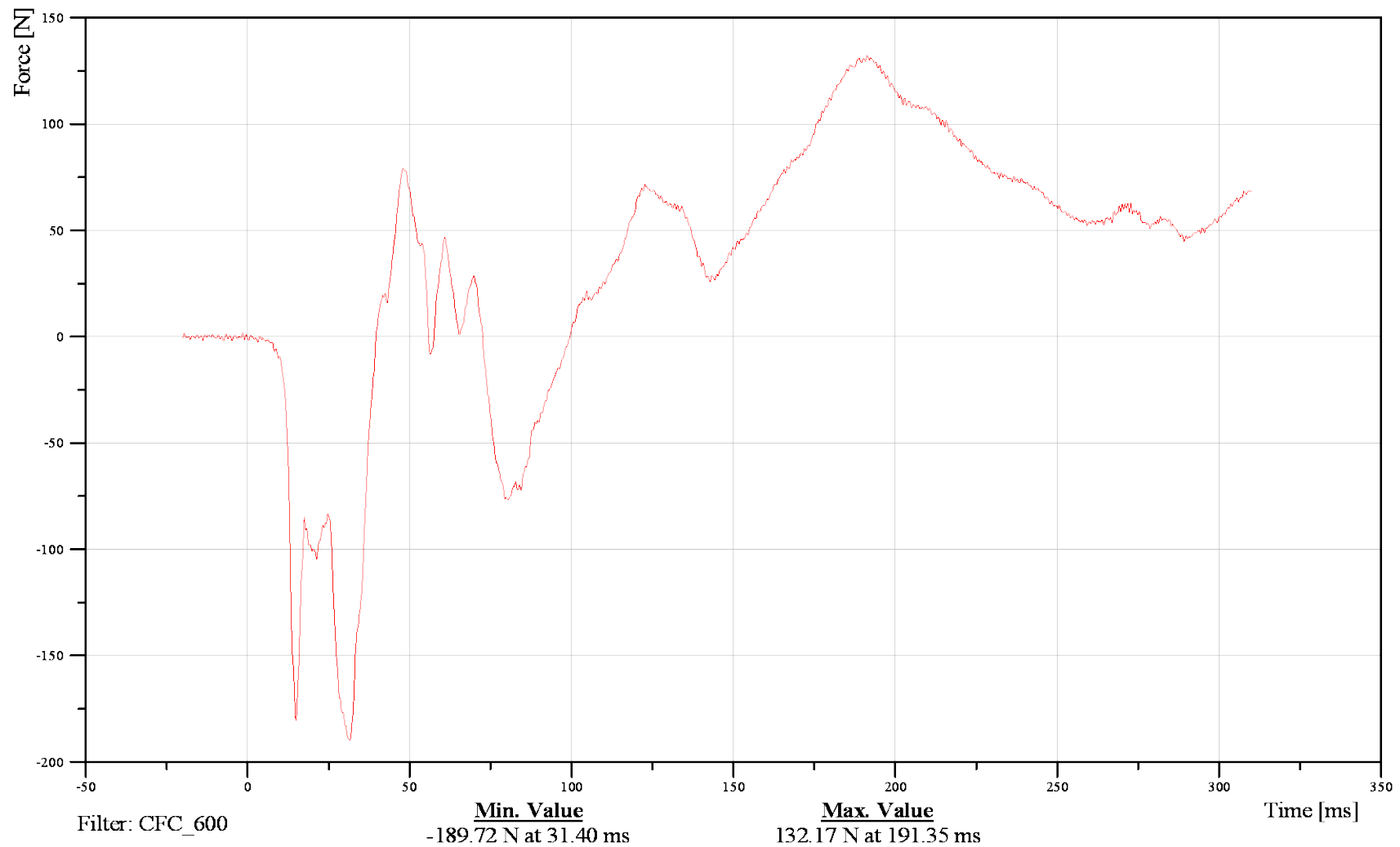
Time: 08:43

Customer: VRTC

11SACRRI00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Right Force Fy

Date: 06/17/2013

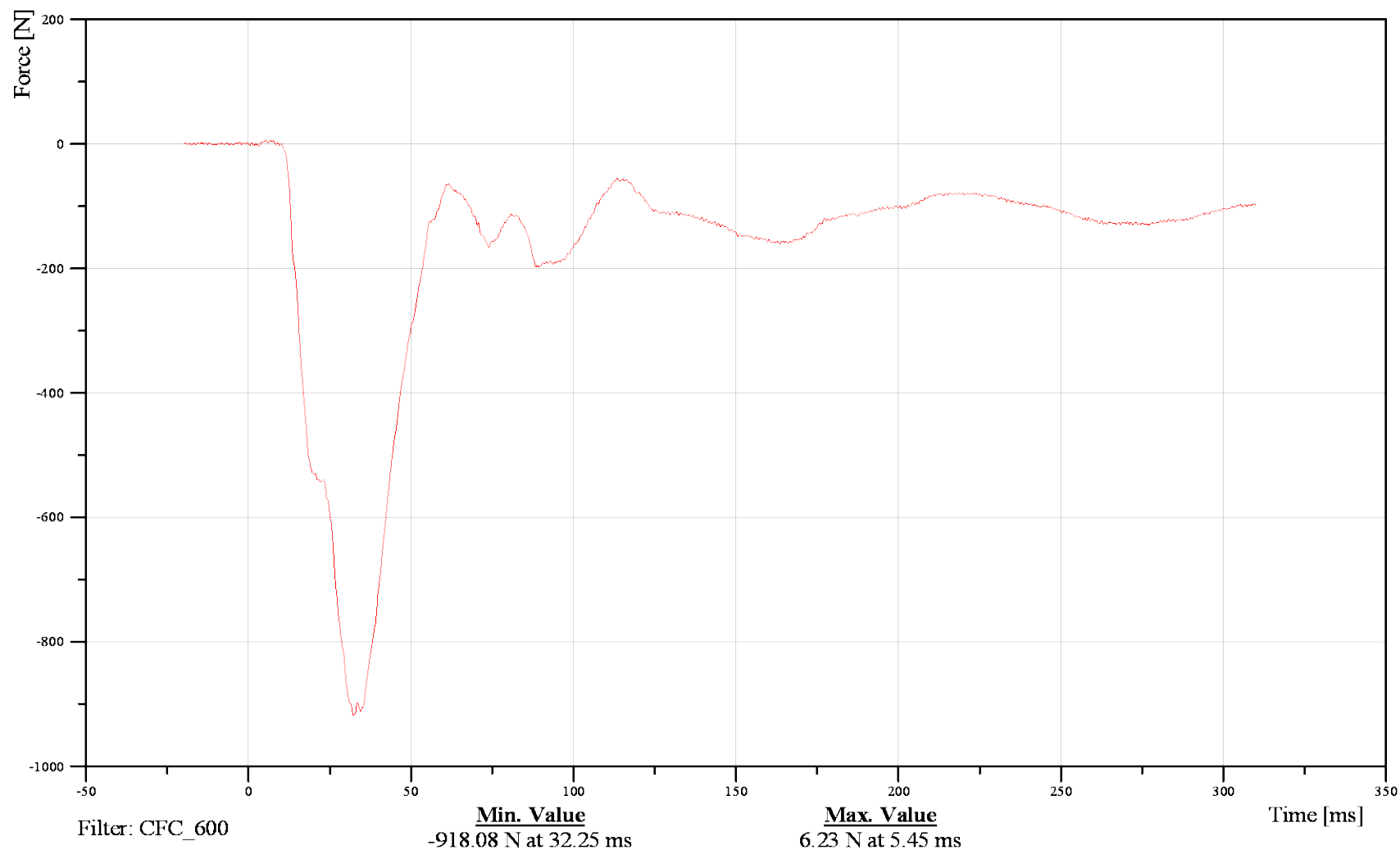
Time: 08:43

Customer: VRTC

11SACRRI00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Right Force Fz

Date: 06/17/2013

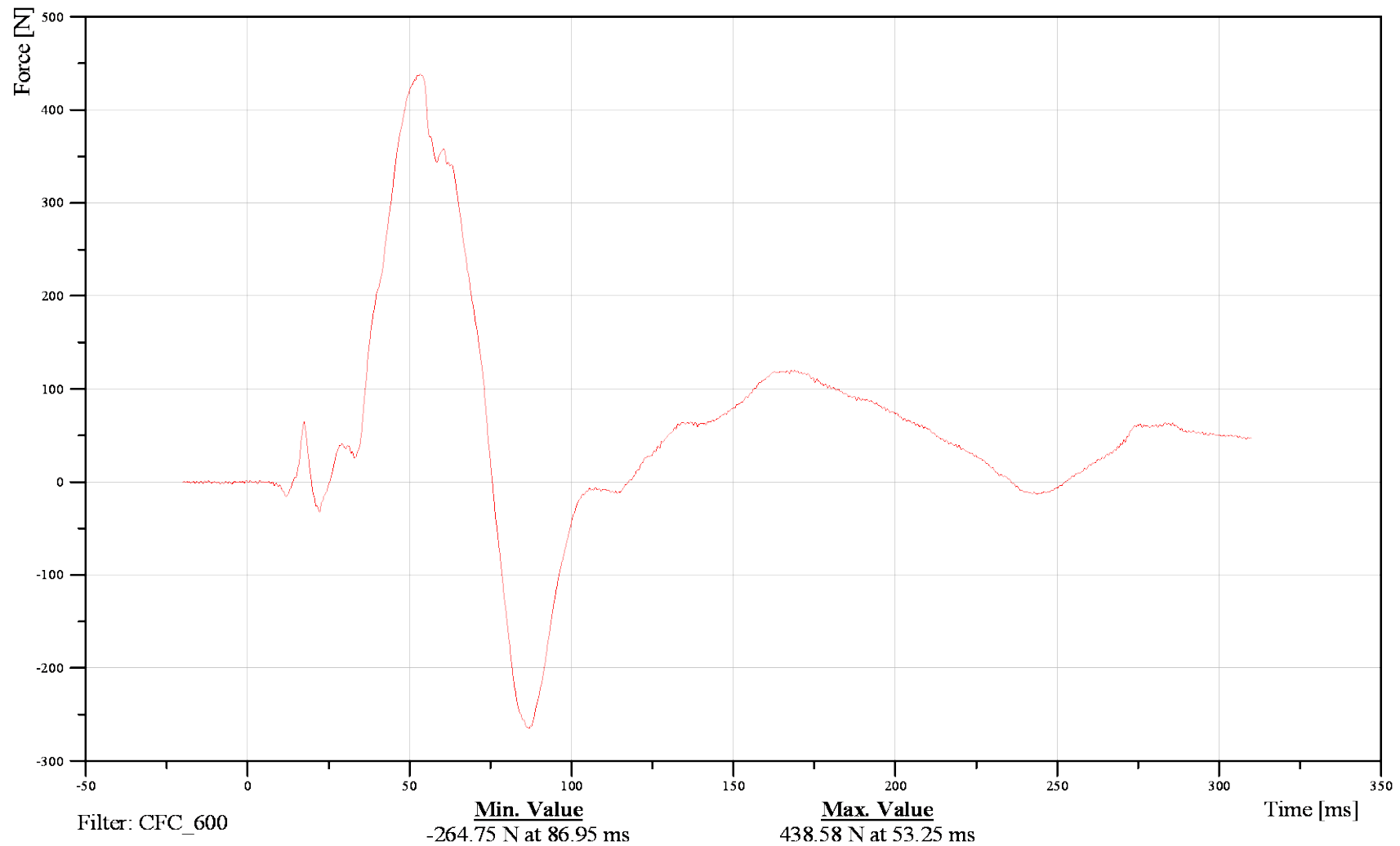
Time: 08:43

Customer: VRTC

11SACRRI00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Left Moment Mx

Date: 06/17/2013

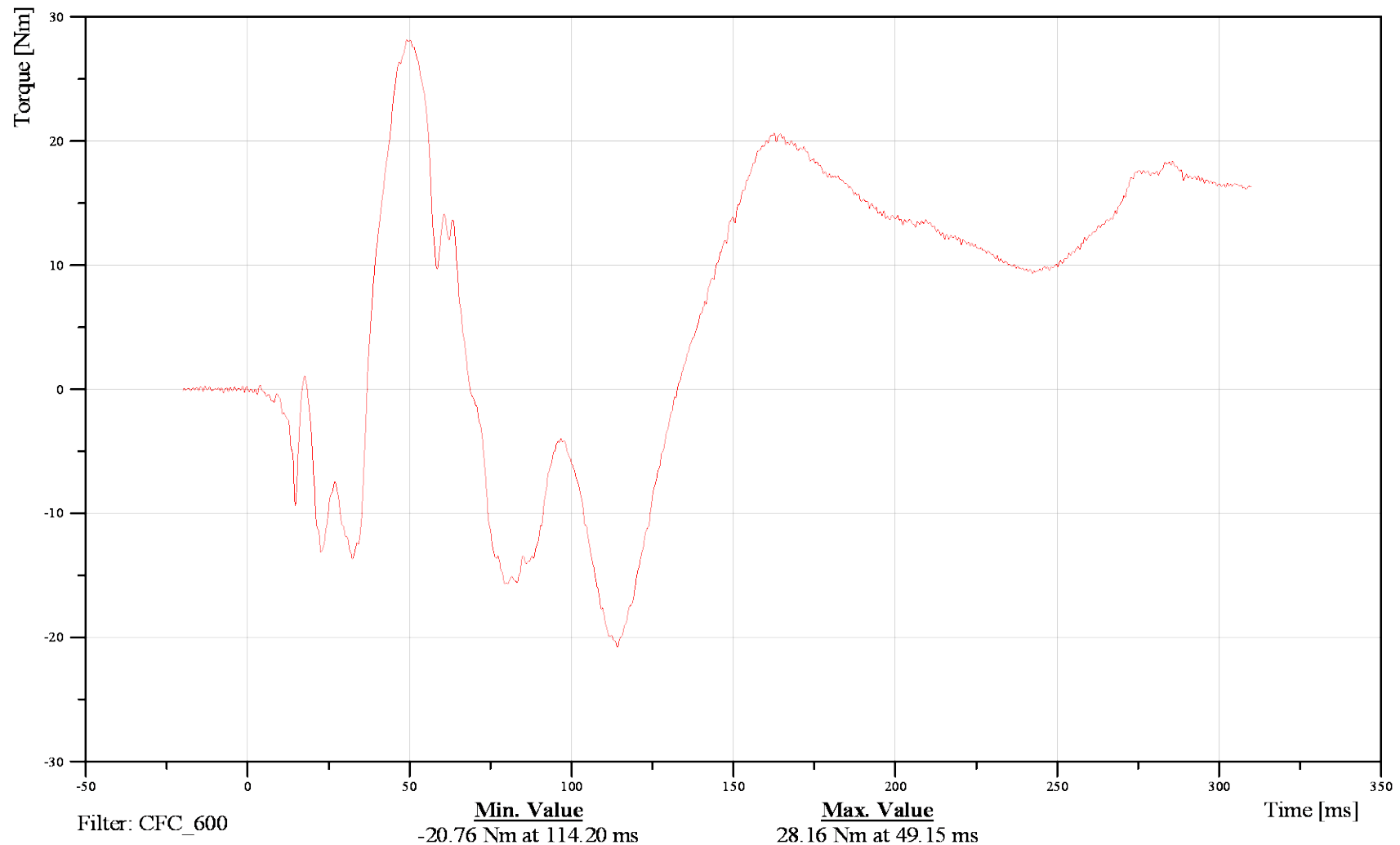
Time: 08:43

Customer: VRTC

11SACRLE00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Left Moment My

Date: 06/17/2013

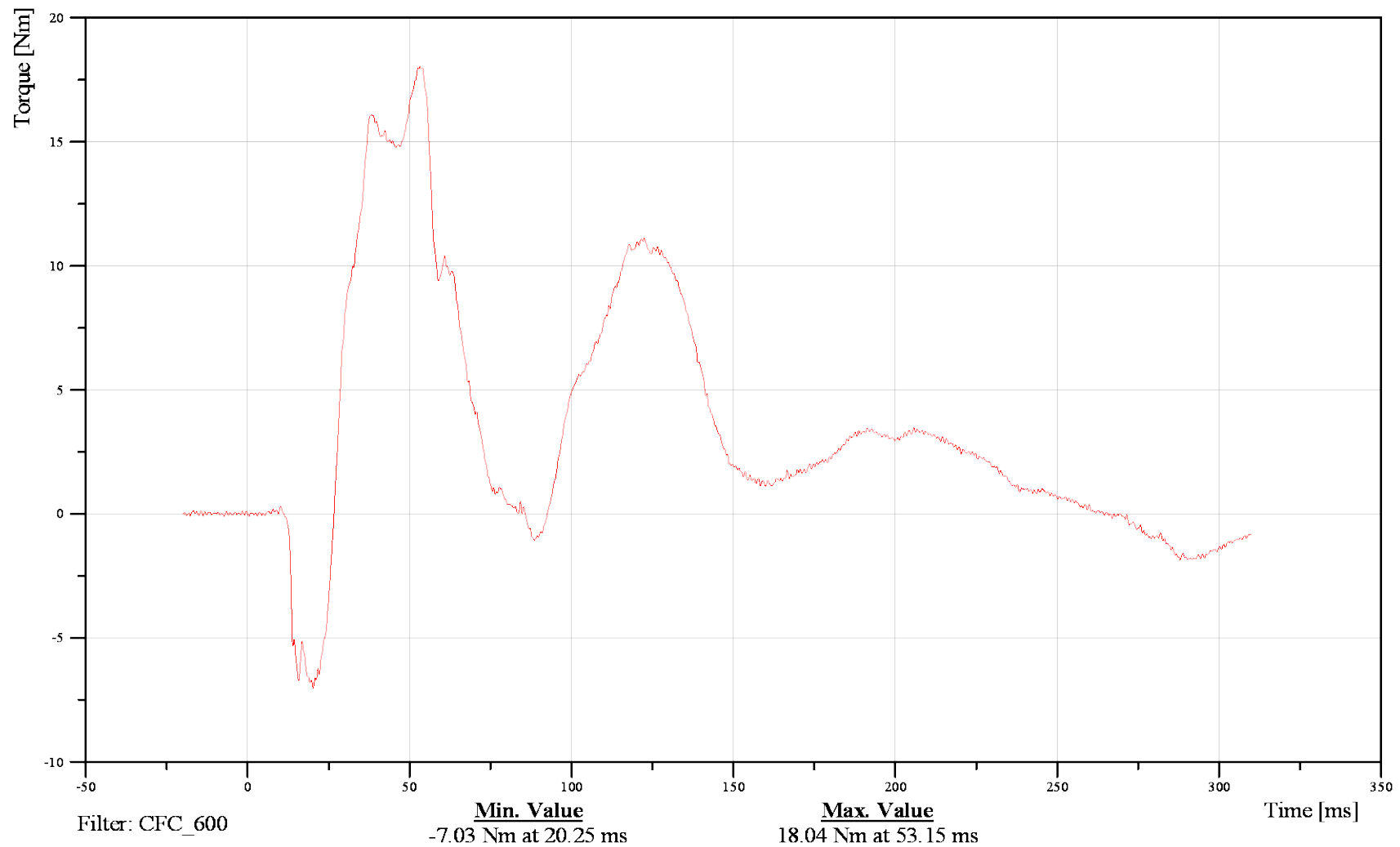
Time: 08:43

Customer: VRTC

11SACRLE00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Left Moment Mz

Date: 06/17/2013

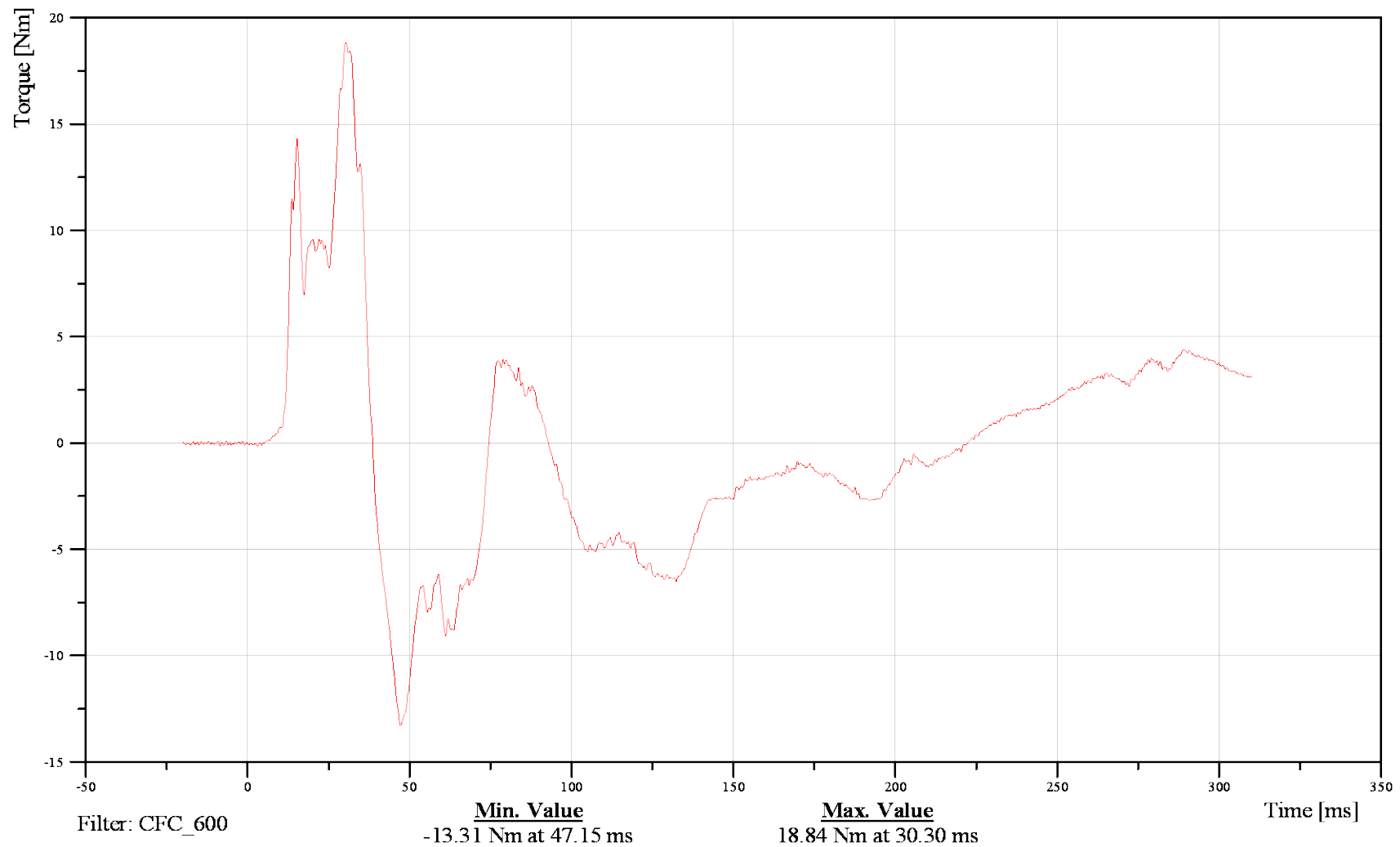
Time: 08:43

Customer: VRTC

11SACRLE00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Left Force Fx

Date: 06/17/2013

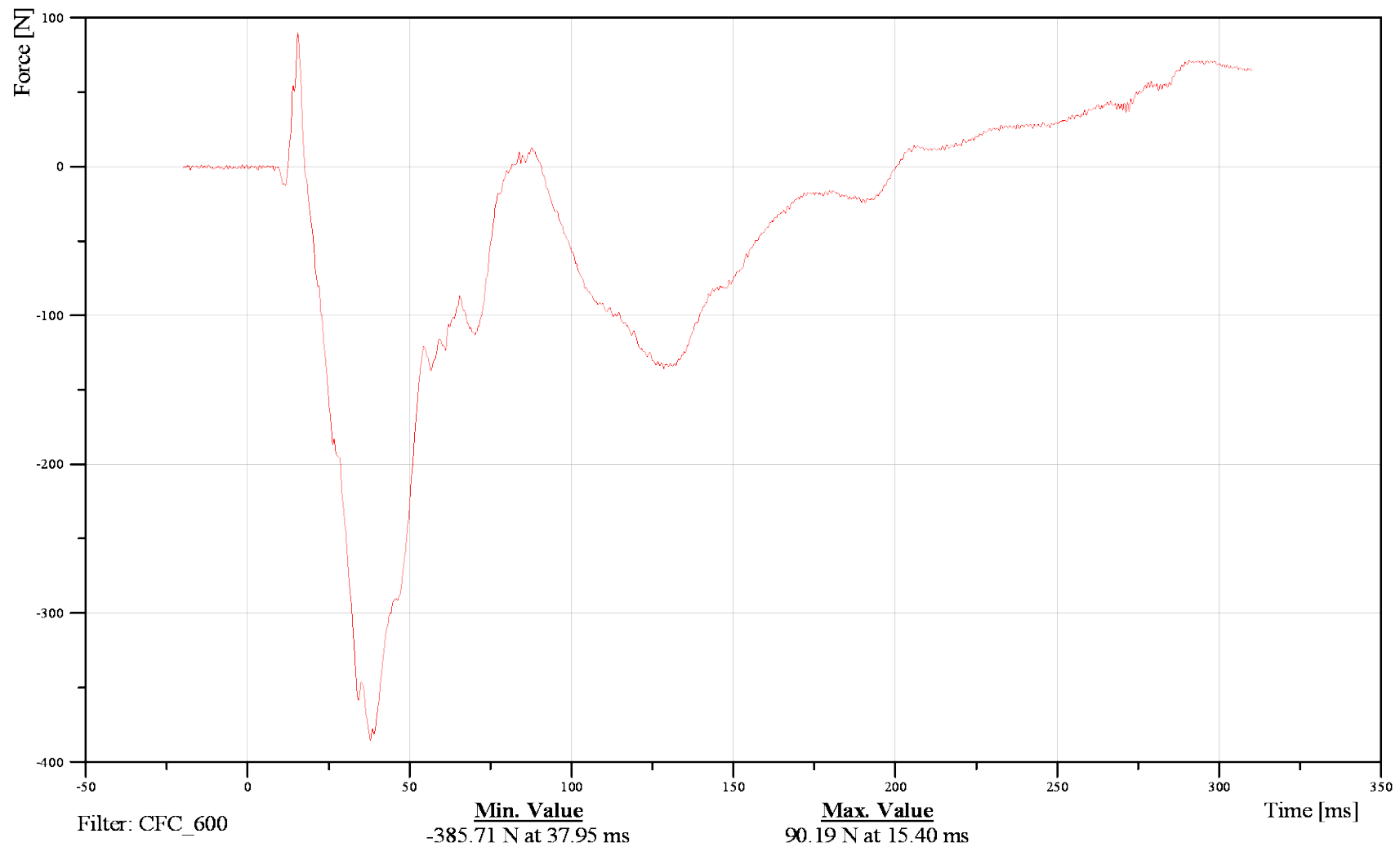
Time: 08:43

Customer: VRTC

11SACRLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Left Force Fy

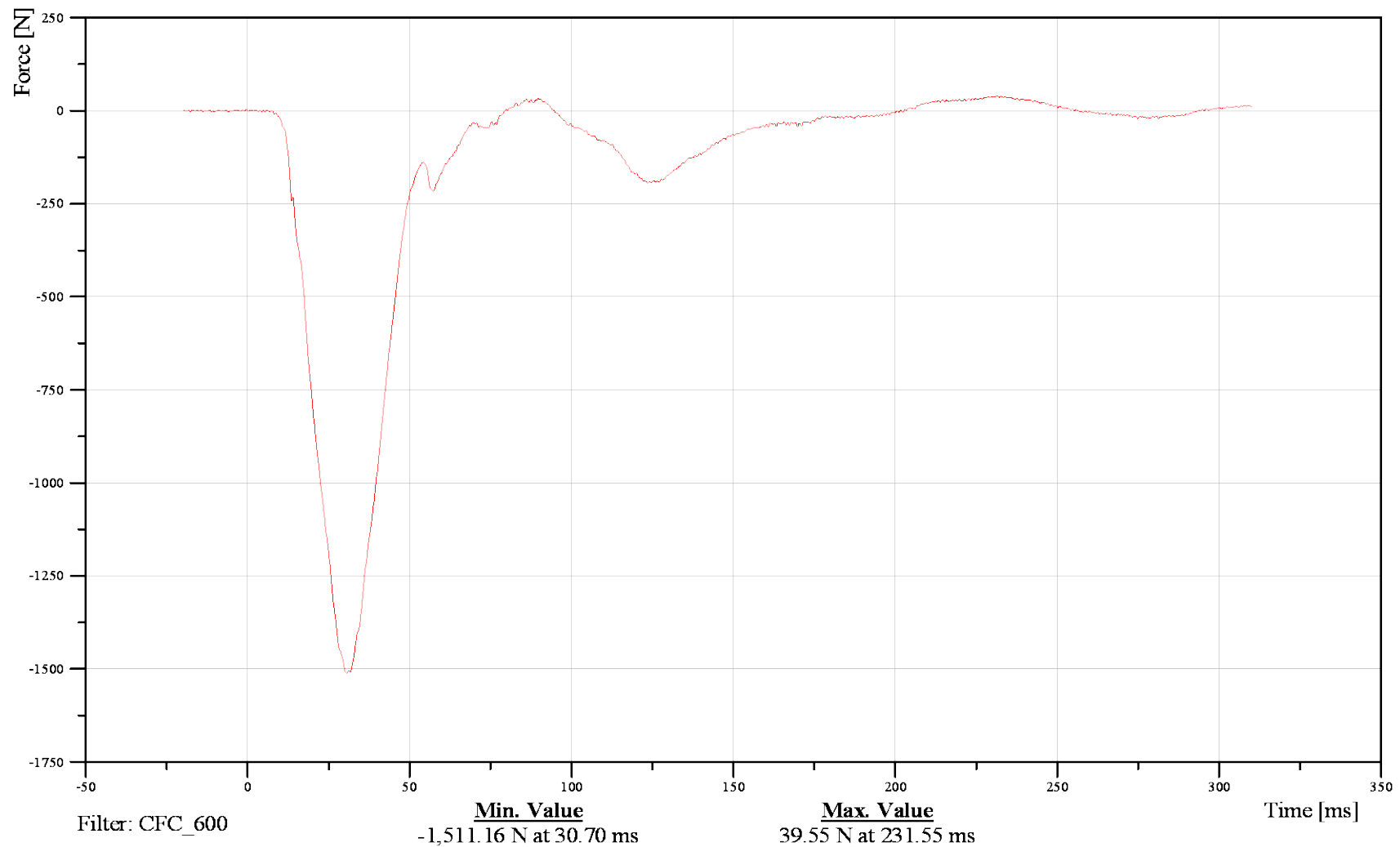
Date: 06/17/2013
Time: 08:43

Customer: VRTC

11SACRLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Sacro-Iliac Left Force Fz

Date: 06/17/2013

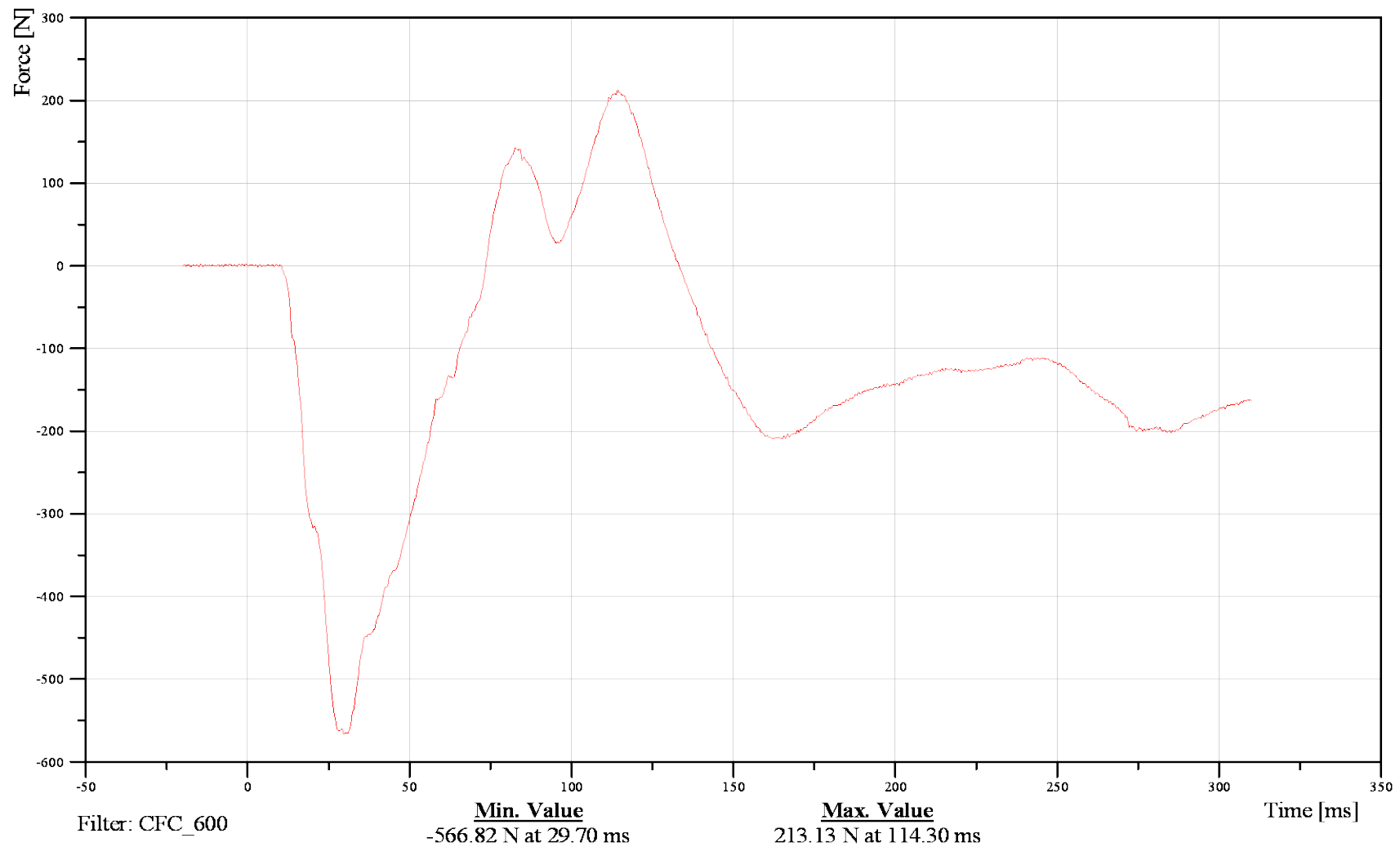
Time: 08:43

Customer: VRTC

11SACRLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Mid Femur Force Fx

Date: 06/17/2013

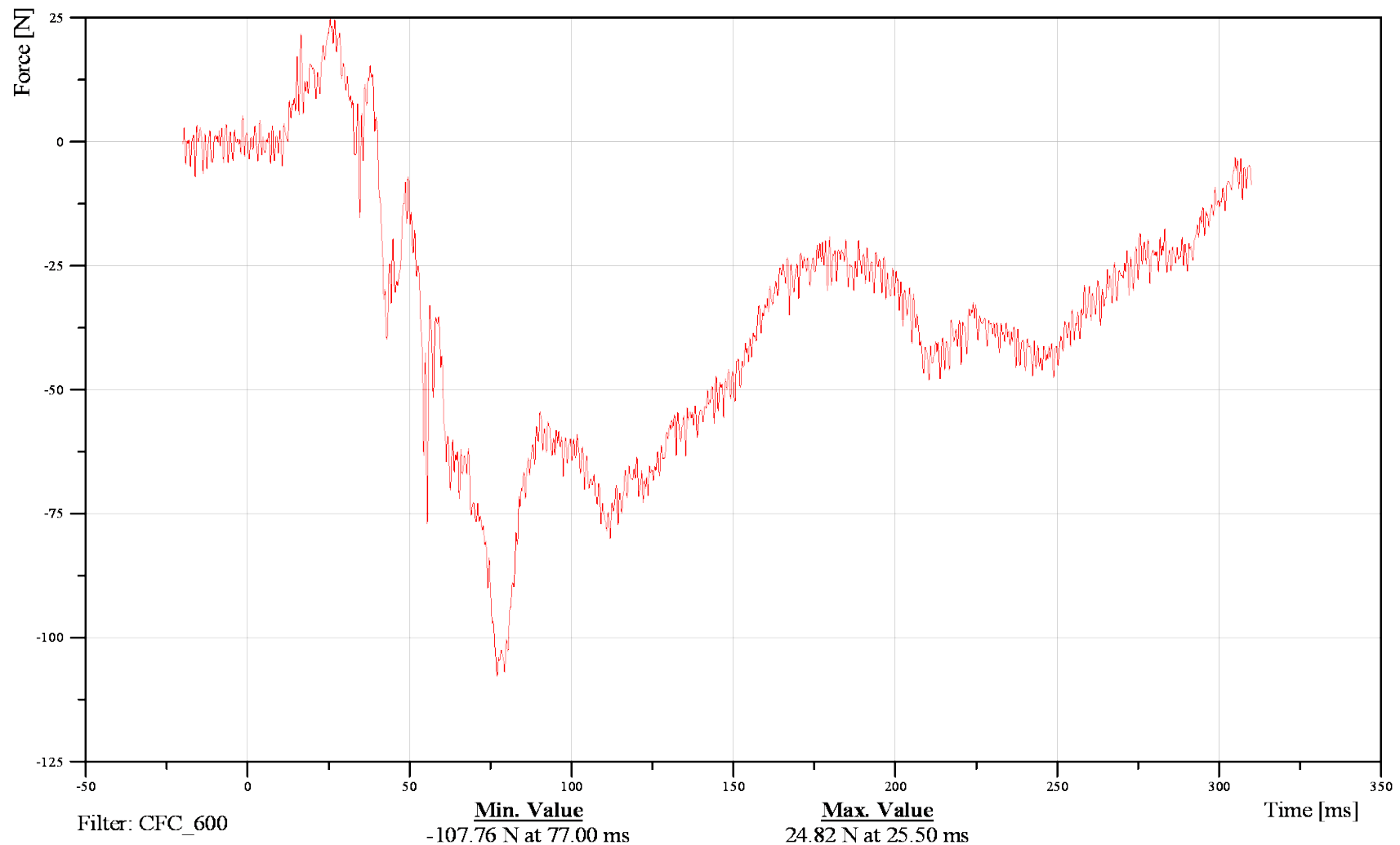
Time: 08:43

Customer: VRTC

11FEMRLEMIWSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Mid Femur Force Fy

Date: 06/17/2013

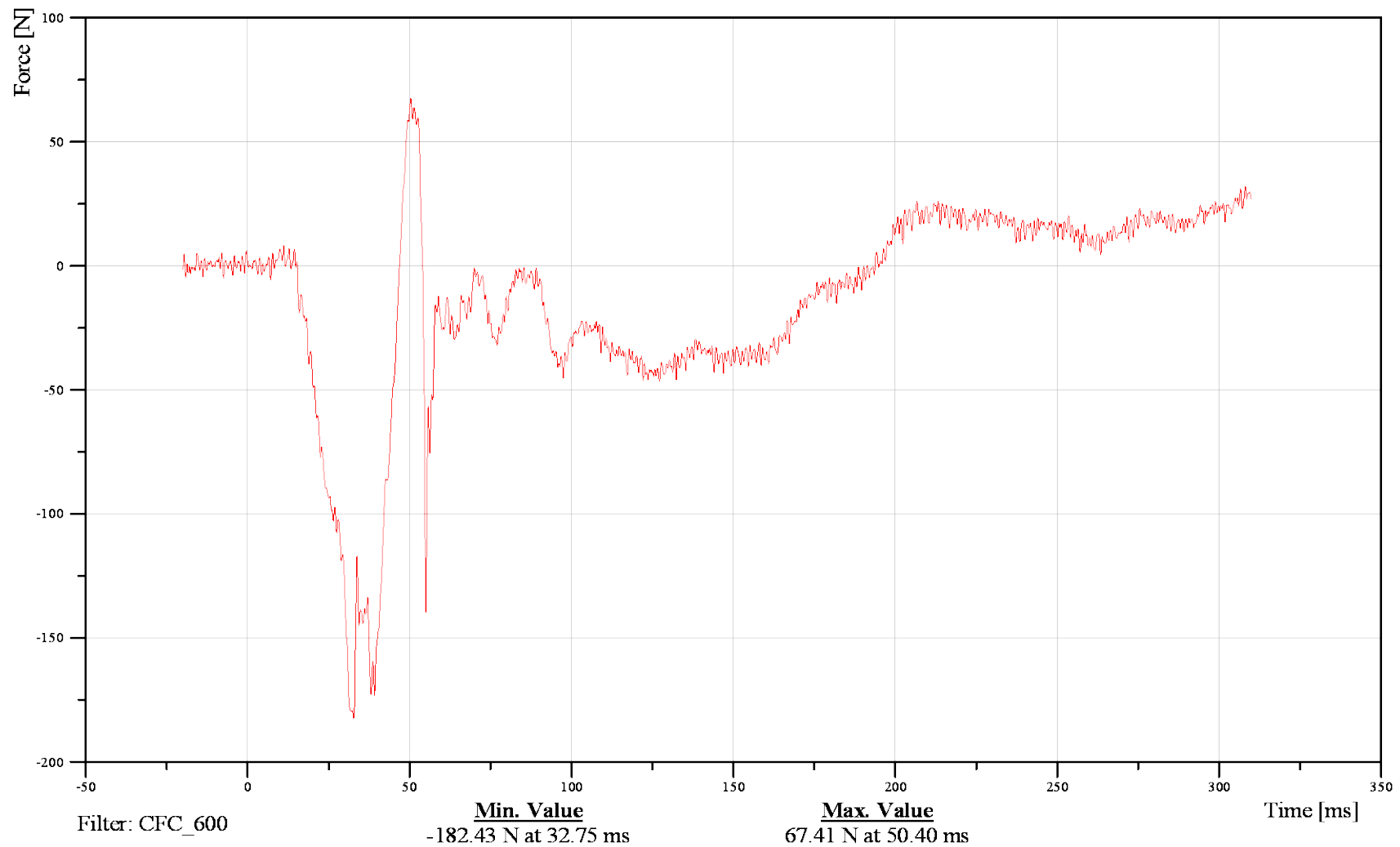
Time: 08:43

Customer: VRTC

11FEMRLEMIWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Mid Femur Force Fz

Date: 06/17/2013

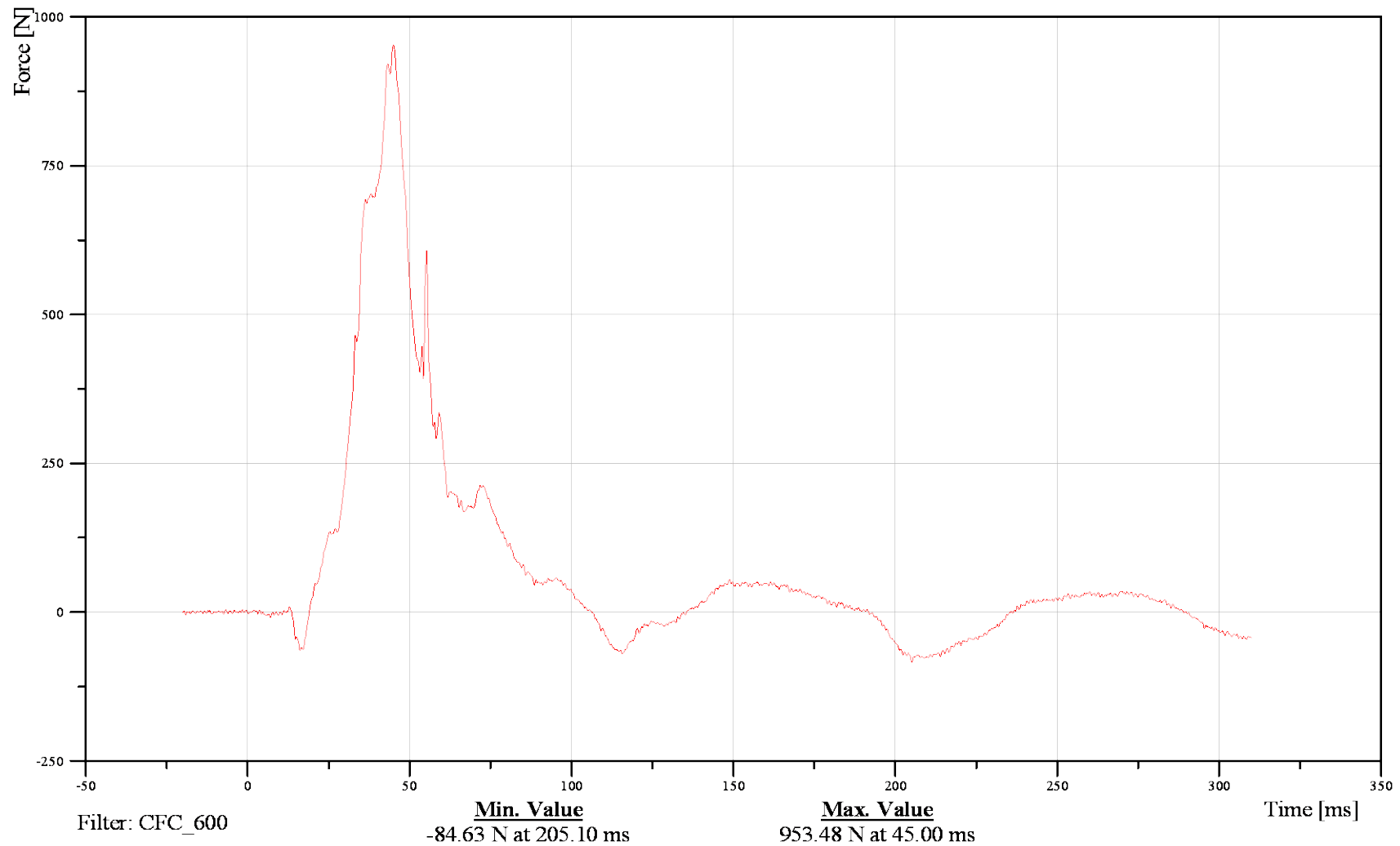
Time: 08:43

Customer: VRTC

11FEMRLEMIWSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Mid Femur Moment Mx

Date: 06/17/2013

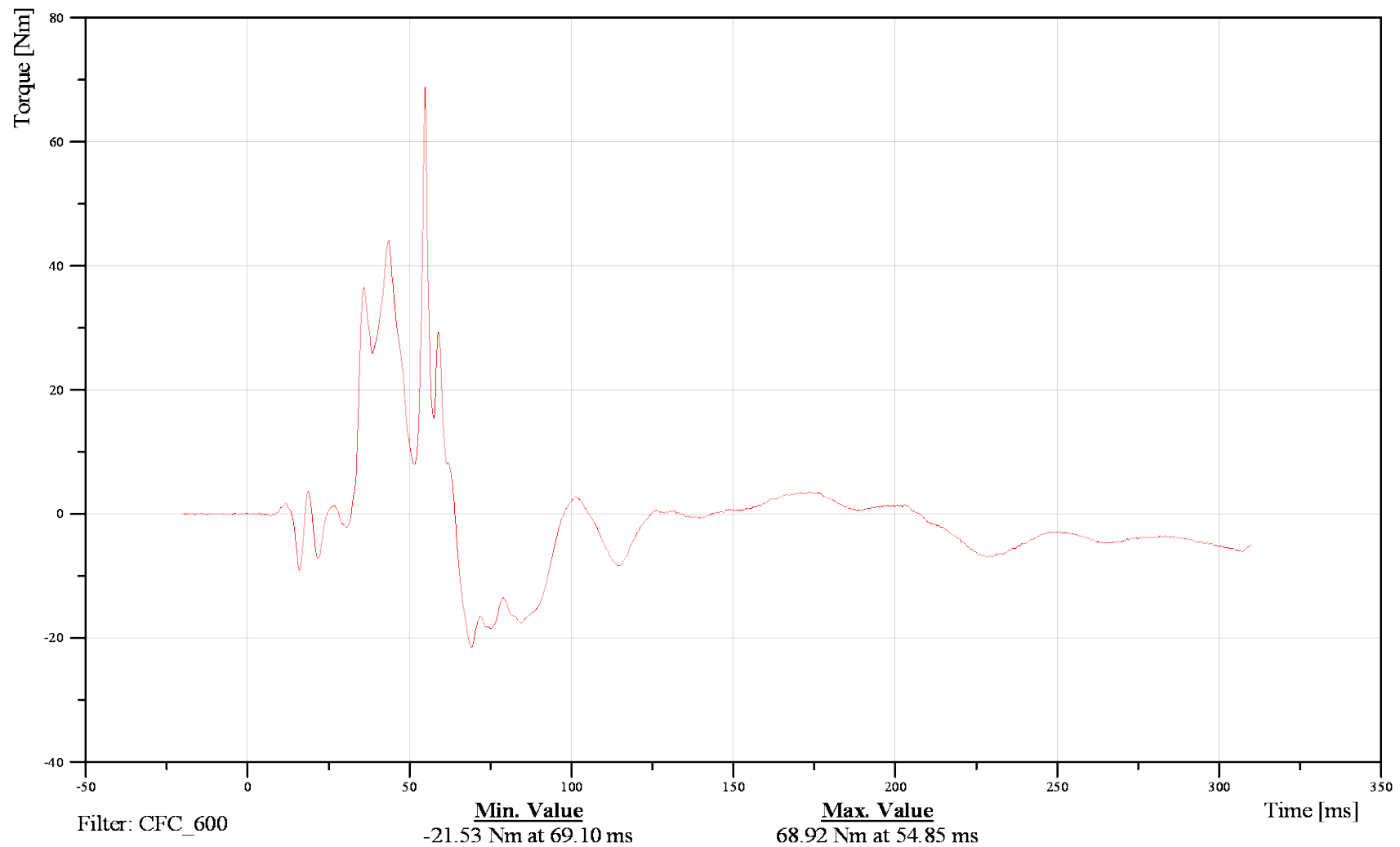
Time: 08:43

Customer: VRTC

11FEMRLEMIWSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Mid Femur Moment My

Date: 06/17/2013

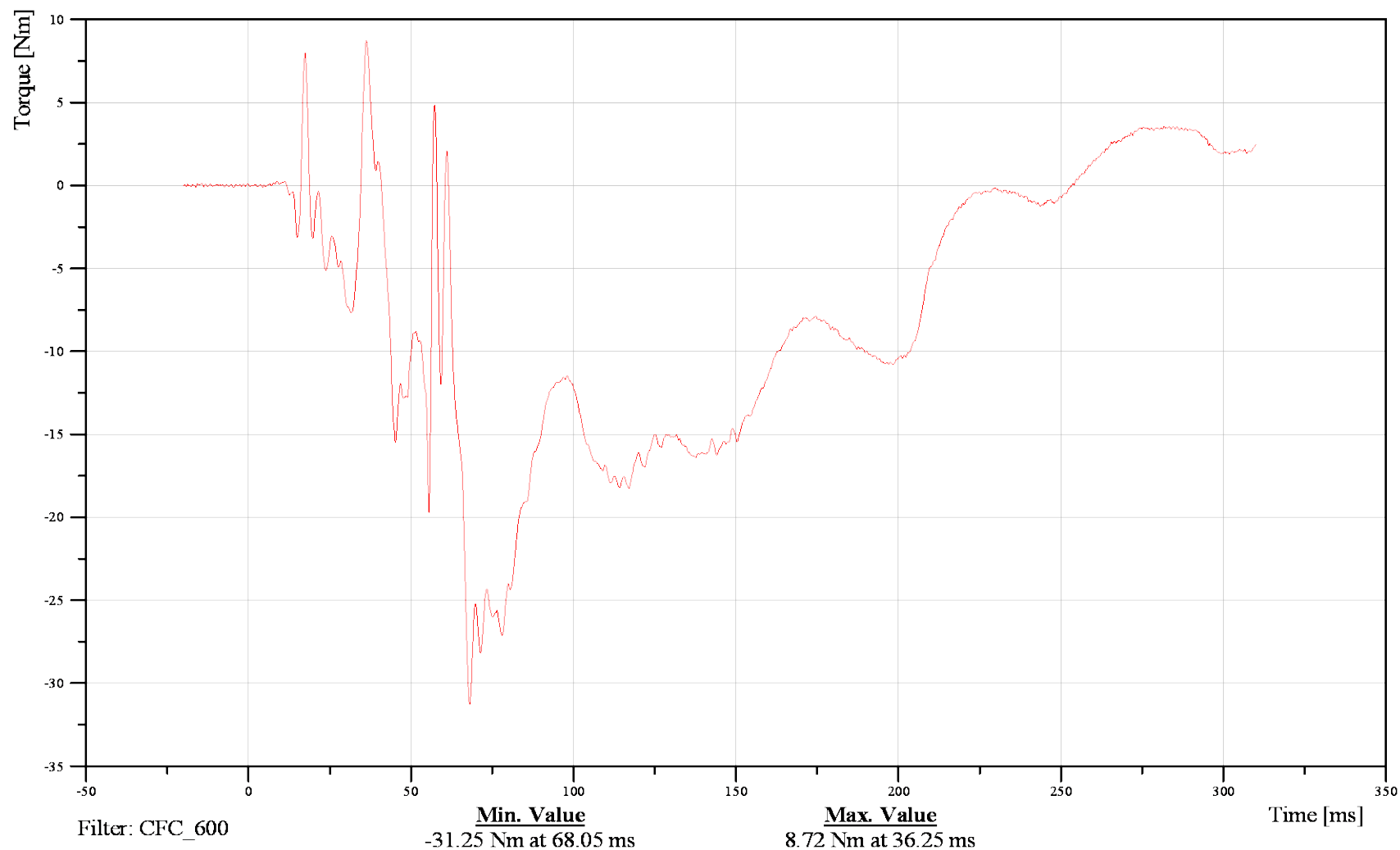
Time: 08:43

Customer: VRTC

11FEMRLEMIWSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Mid Femur Moment Mz

Date: 06/17/2013

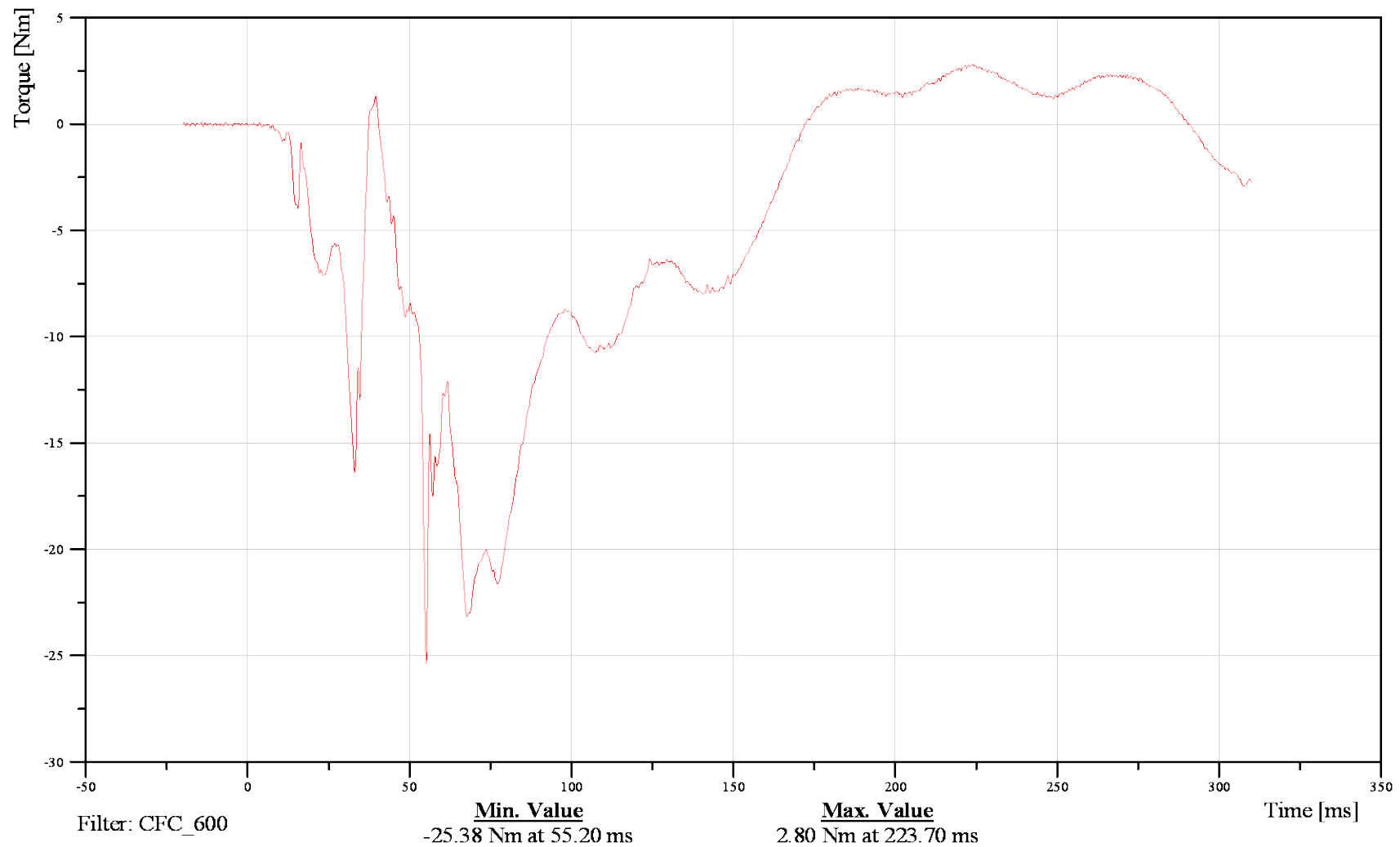
Time: 08:43

Customer: VRTC

11FEMRLEMIWSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Femoral Neck Force Fx

Date: 06/17/2013

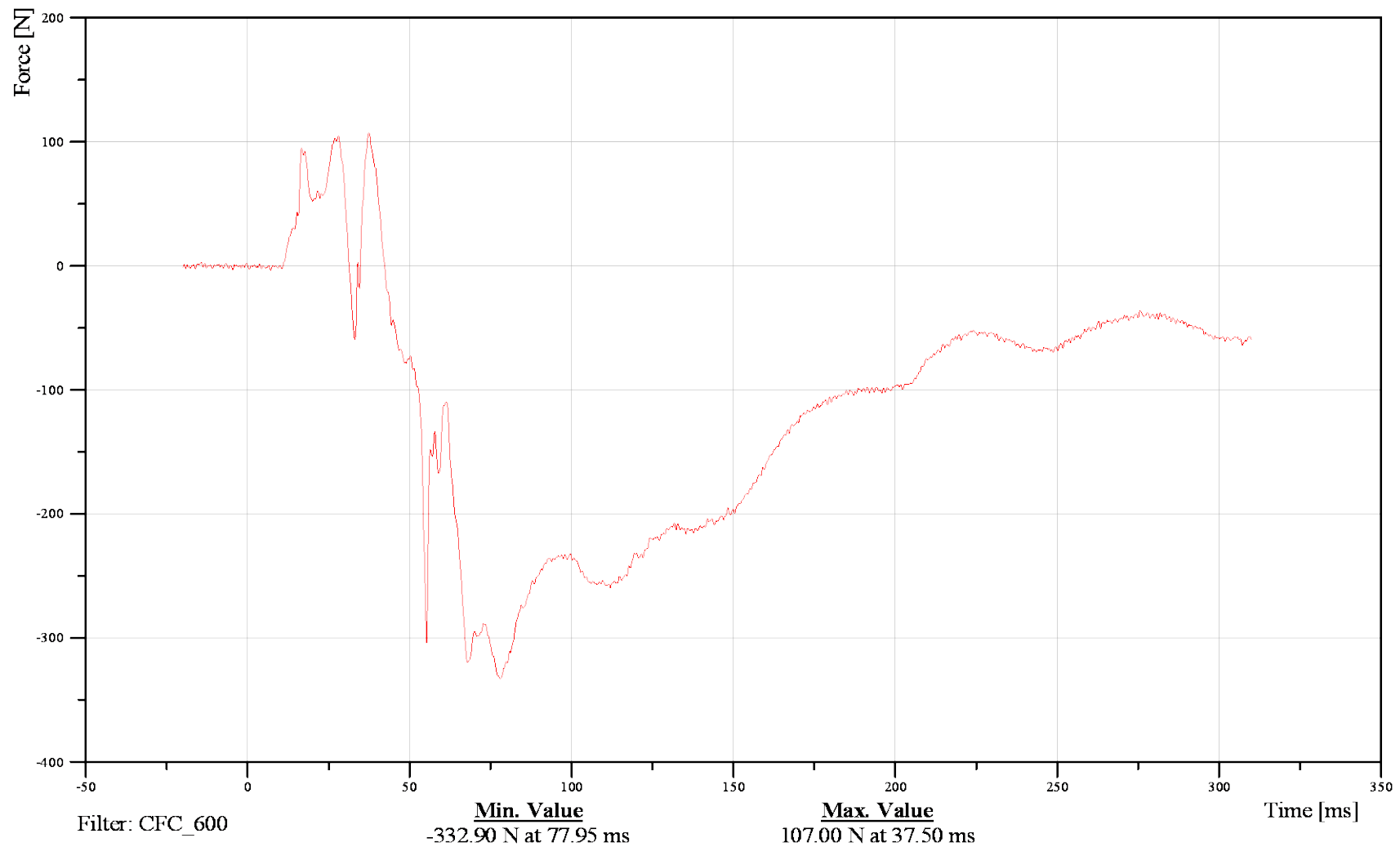
Time: 08:43

Customer: VRTC

11FEACLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Femoral Neck Force Fy

Date: 06/17/2013

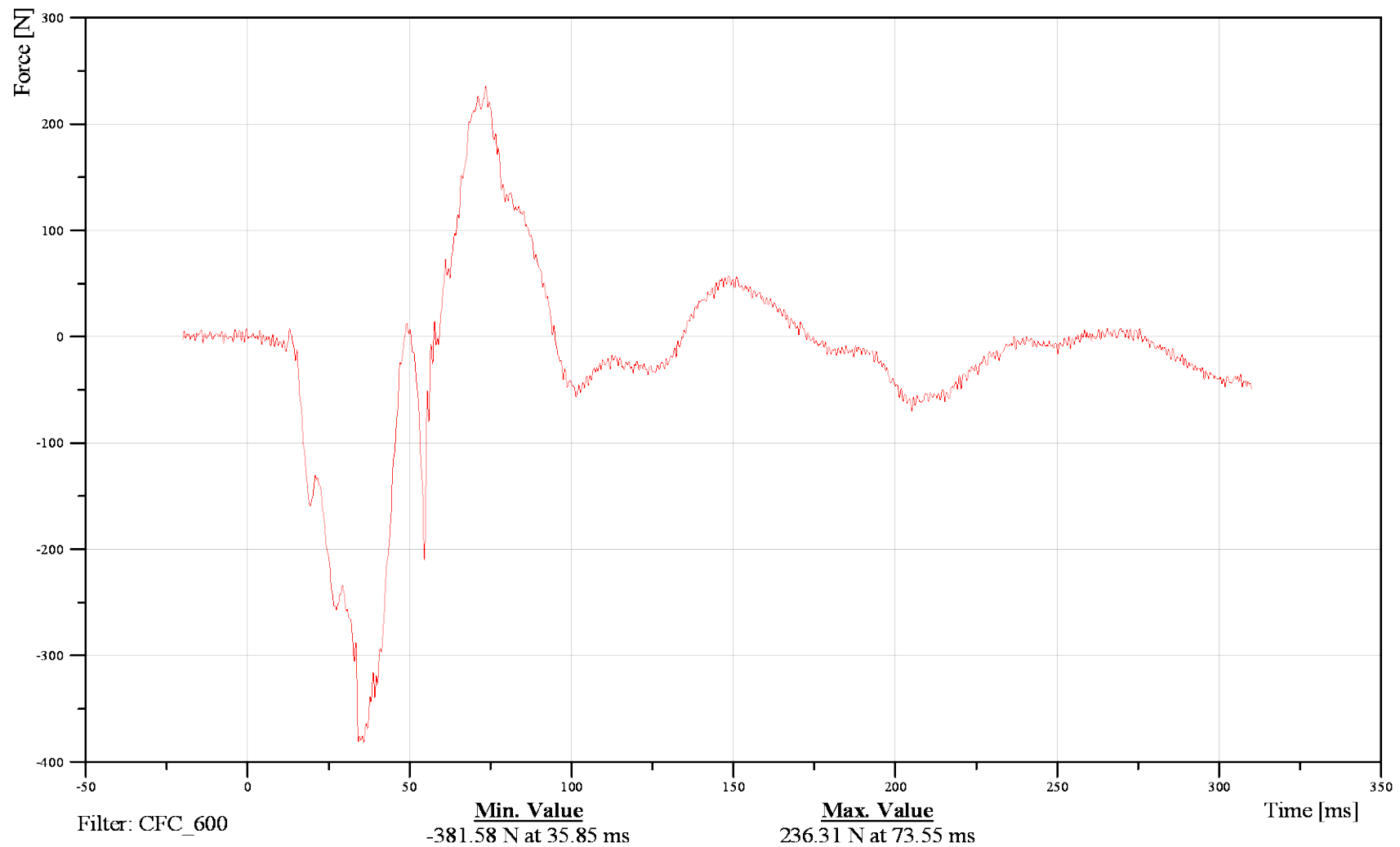
Time: 08:43

Customer: VRTC

11FEACLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Femoral Neck Force Fz

Date: 06/17/2013

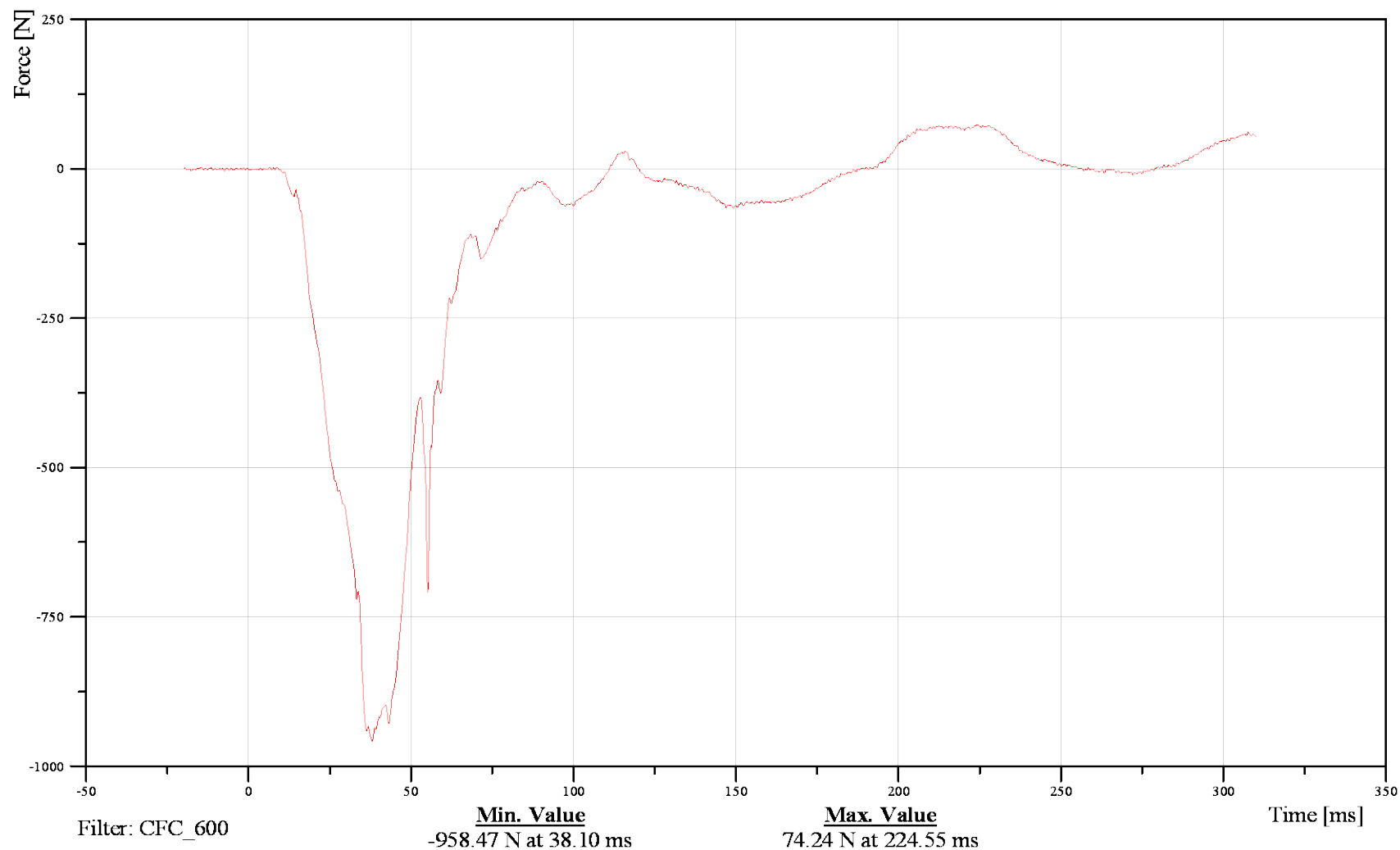
Time: 08:43

Customer: VRTC

11FEACLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Femoral Neck Force Fx

Date: 06/17/2013

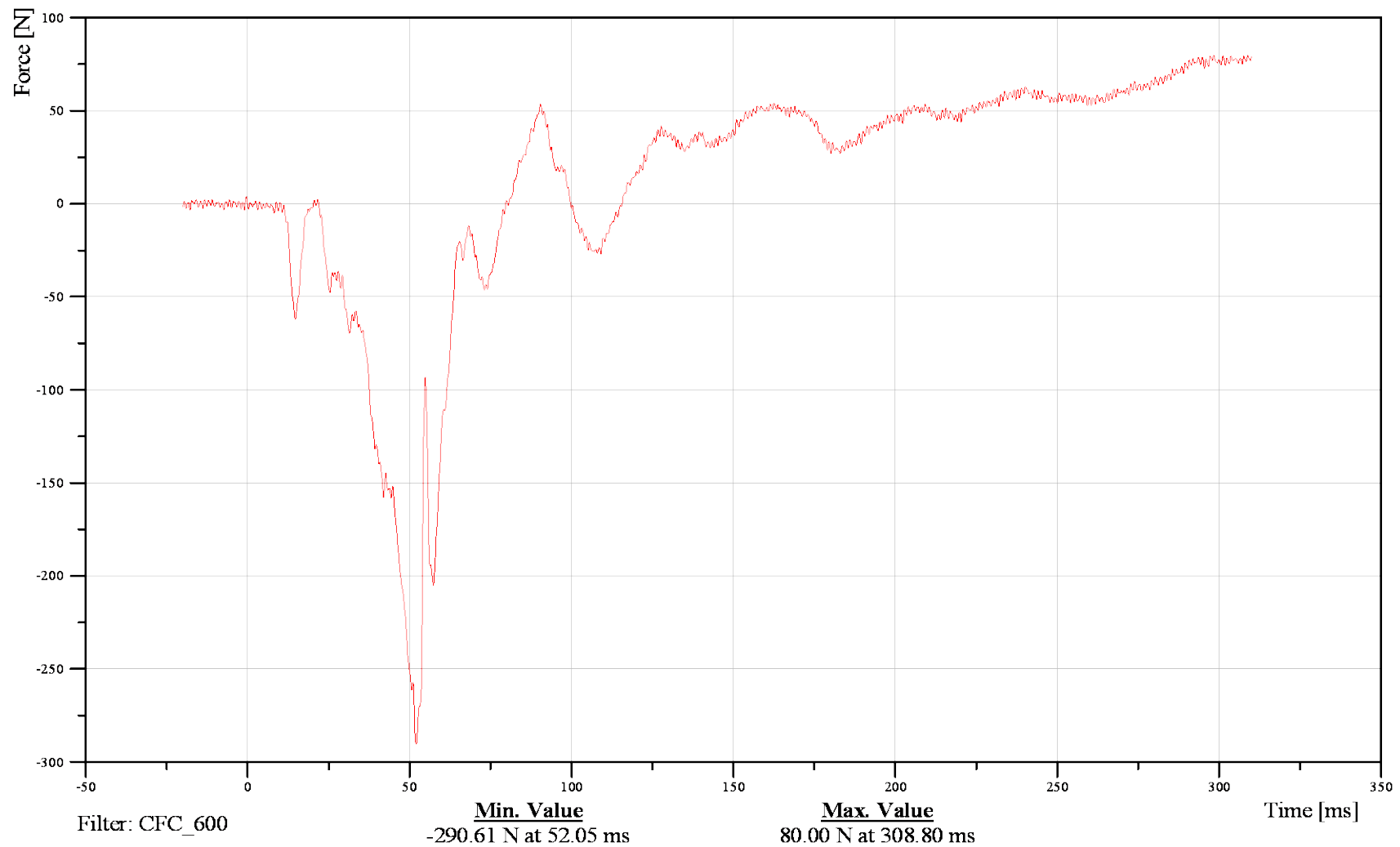
Time: 08:43

Customer: VRTC

11FEACRI00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Femoral Neck Force Fy

Date: 06/17/2013

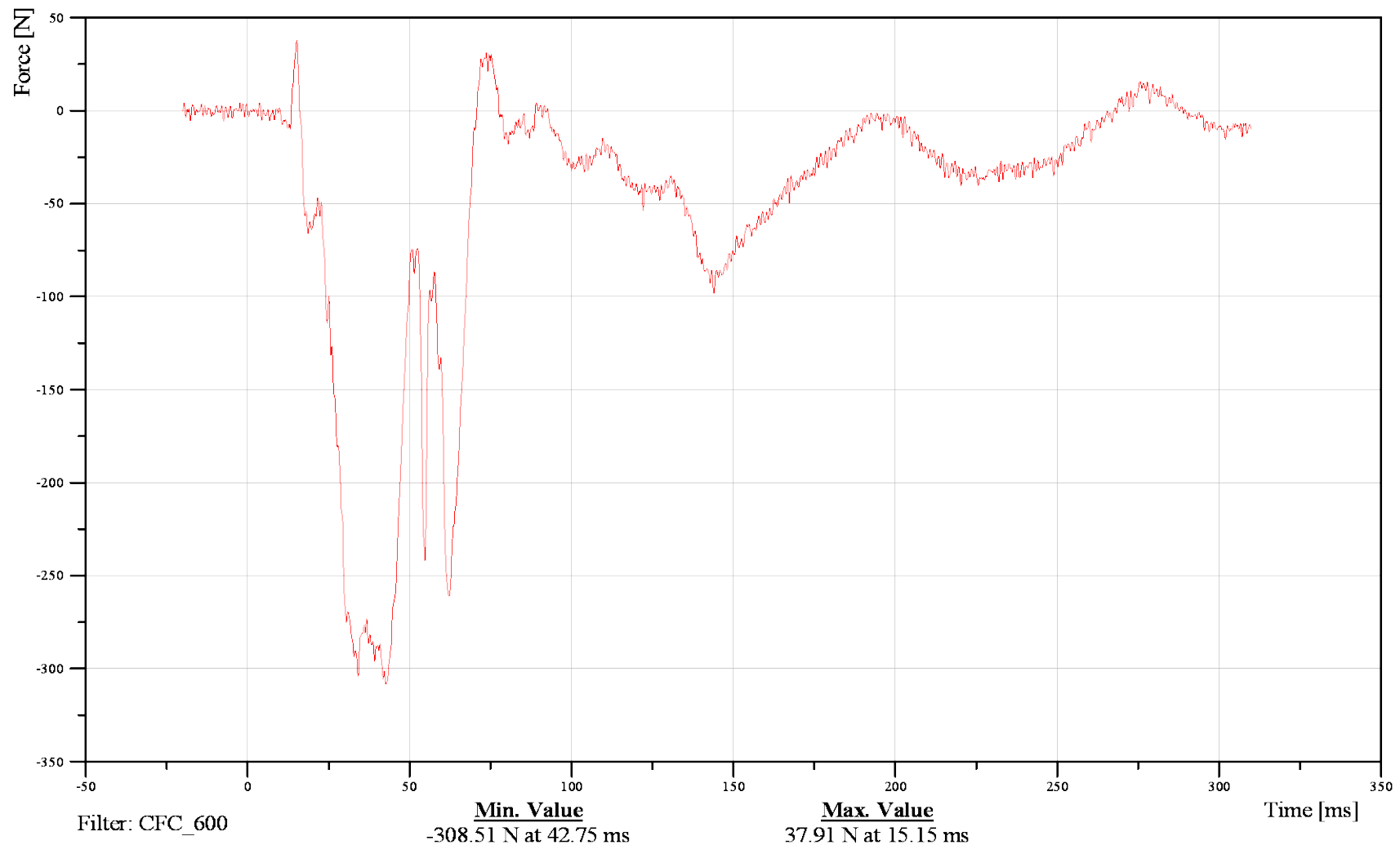
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Customer: VRTC

11FEACRI00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Femoral Neck Force Fz

Date: 06/17/2013

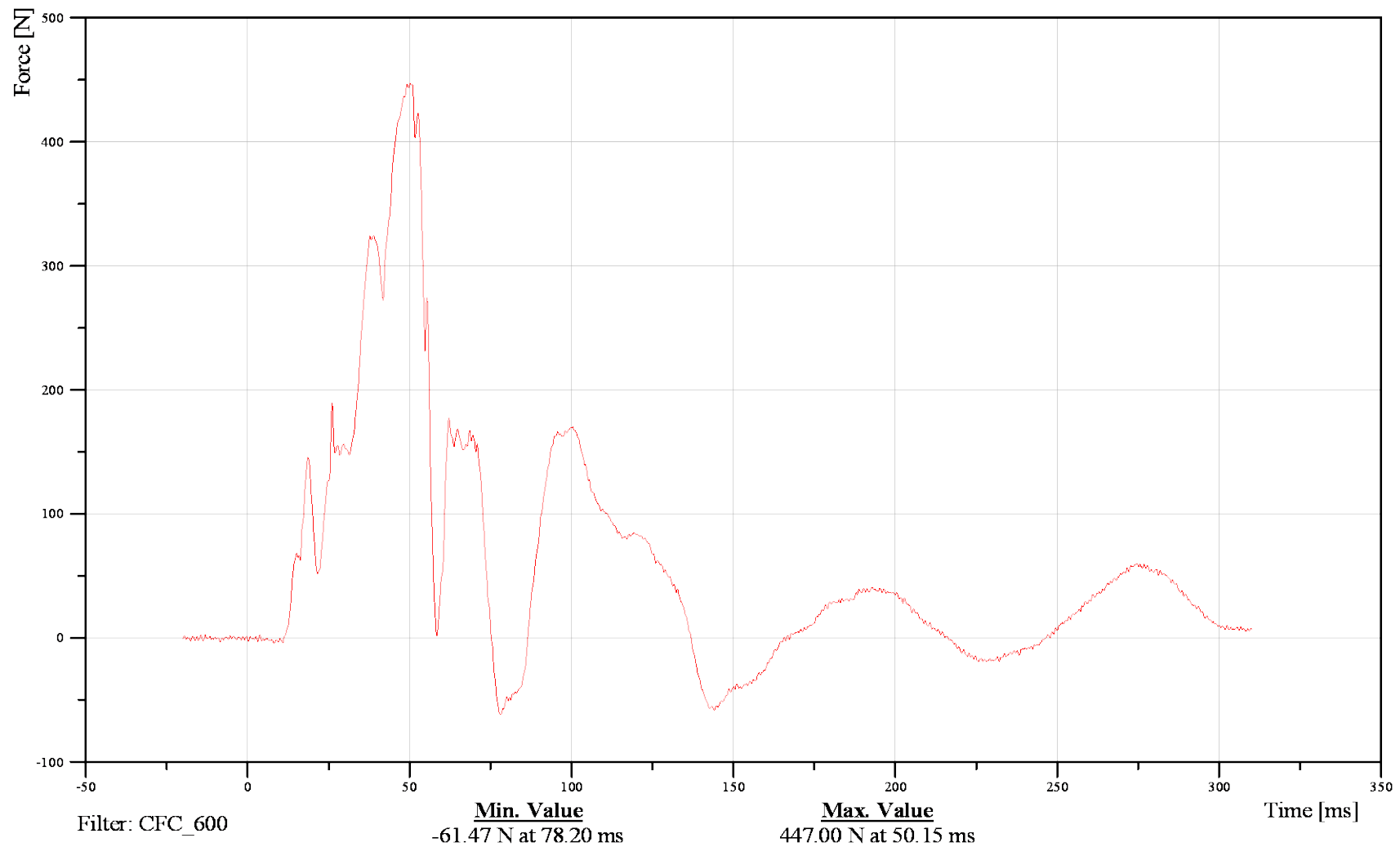
Time: 08:43

Customer: VRTC

11FEACRI00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Knee Outboard Force Fy

Date: 06/17/2013

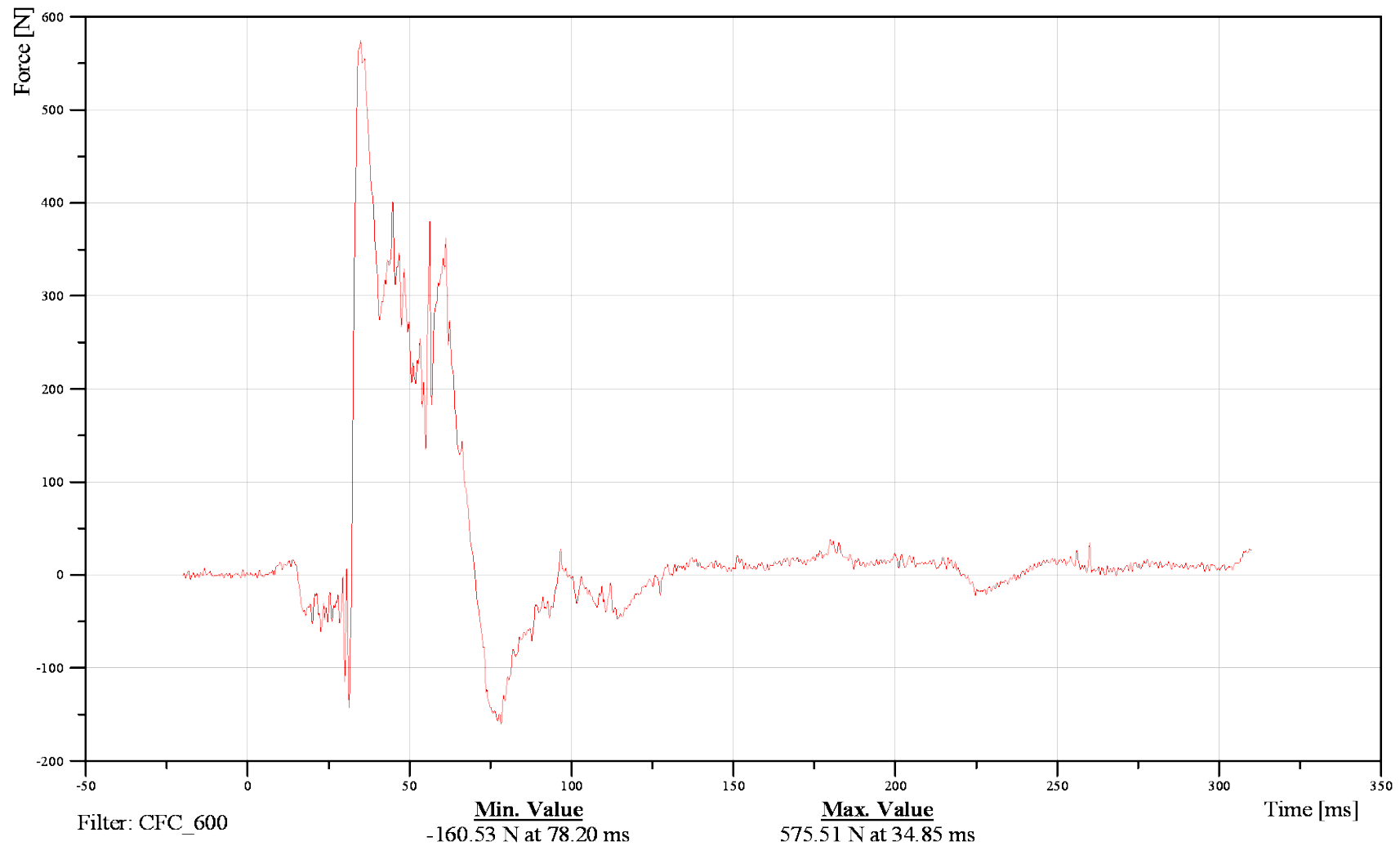
Time: 08:43

Customer: VRTC

11KNEELEOUWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Knee Inboard Force Fy

Date: 06/17/2013

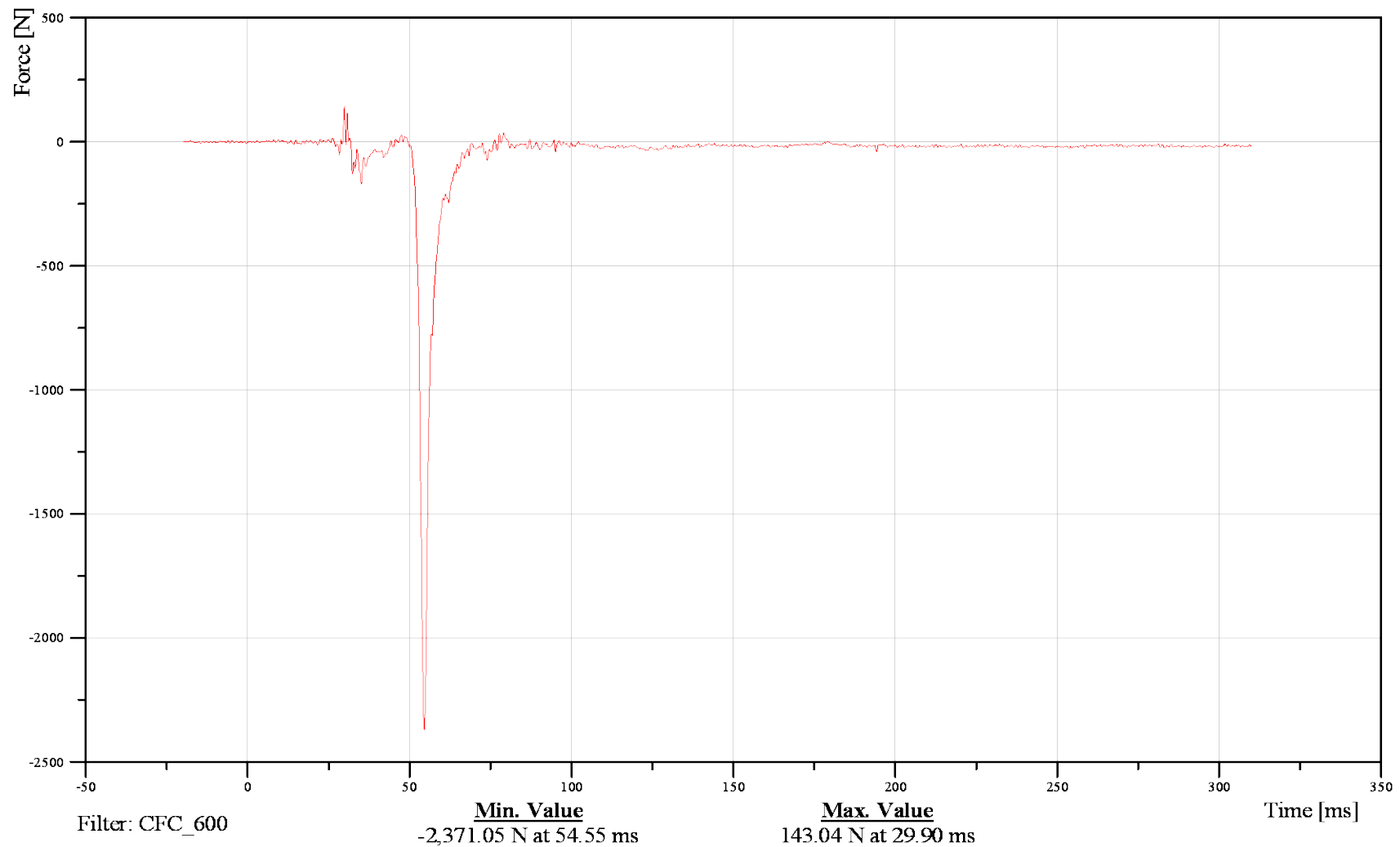
Time: 08:43

Customer: VRTC

11KNEELEINWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Longitudinal Ax

Date: 06/17/2013

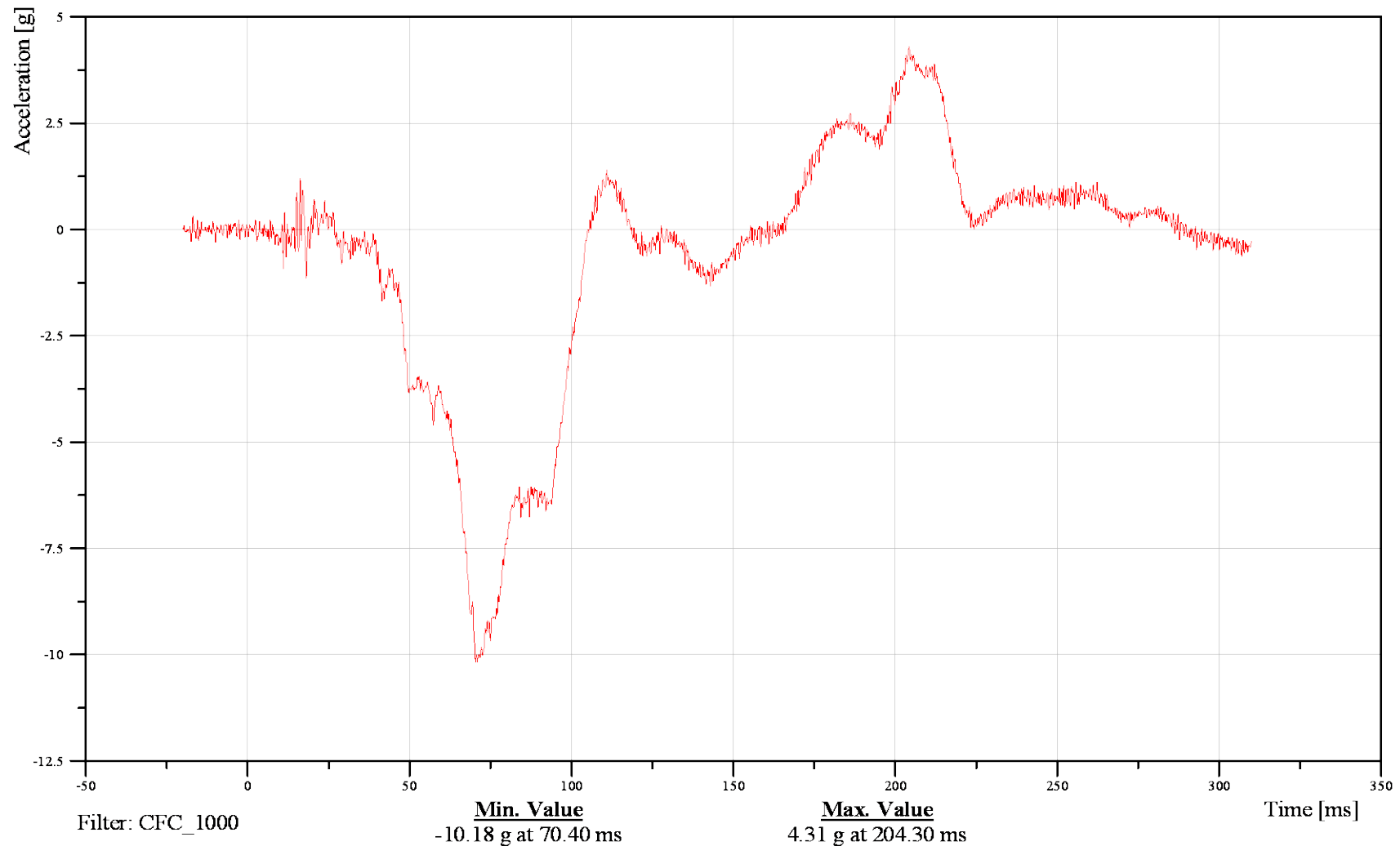
Time: 08:43

Customer: VRTC

14HEADCG00WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Lateral Ay

Date: 06/17/2013

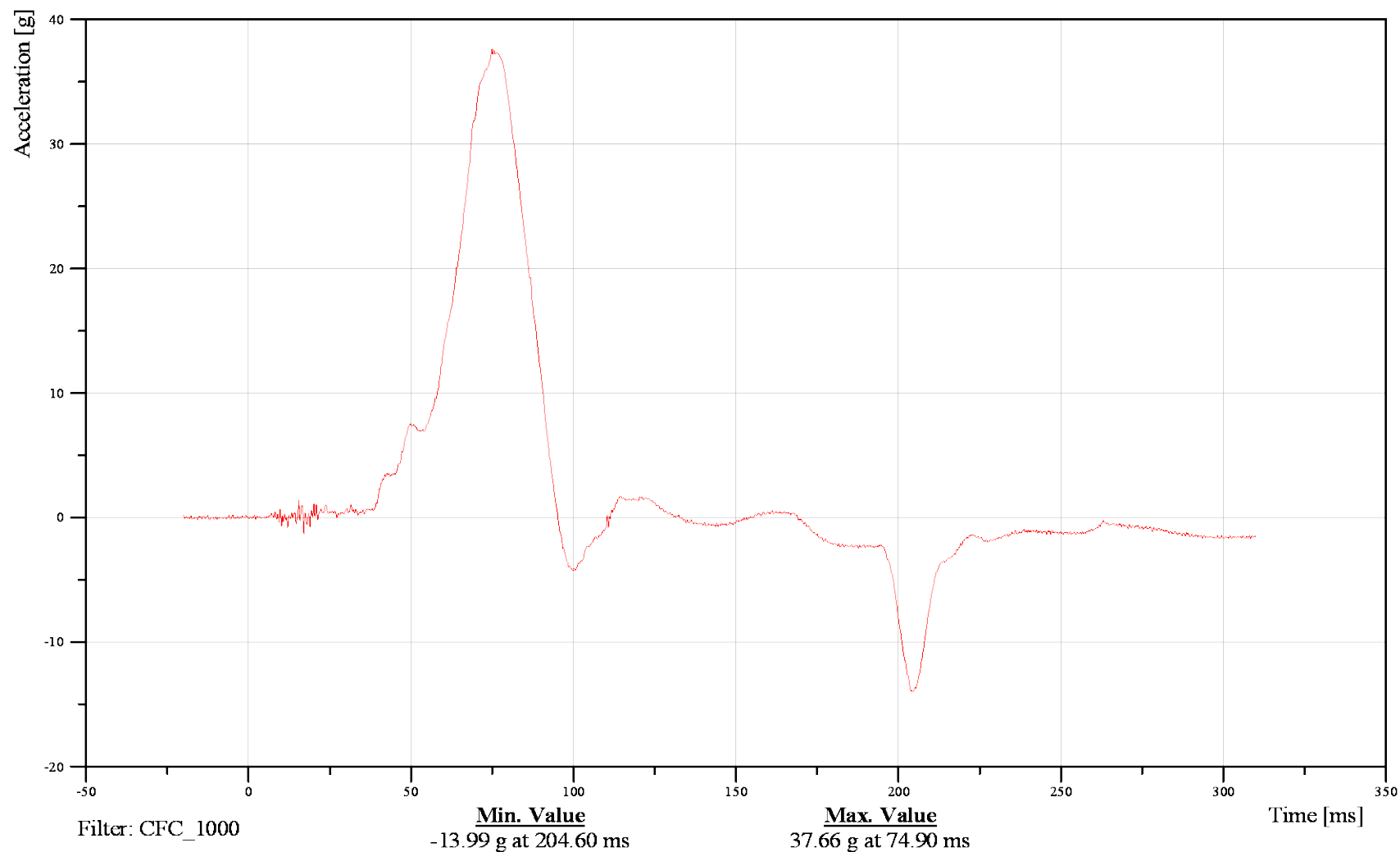
Time: 08:43

Customer: VRTC

14HEADCG00WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Vertical Az

Date: 06/17/2013

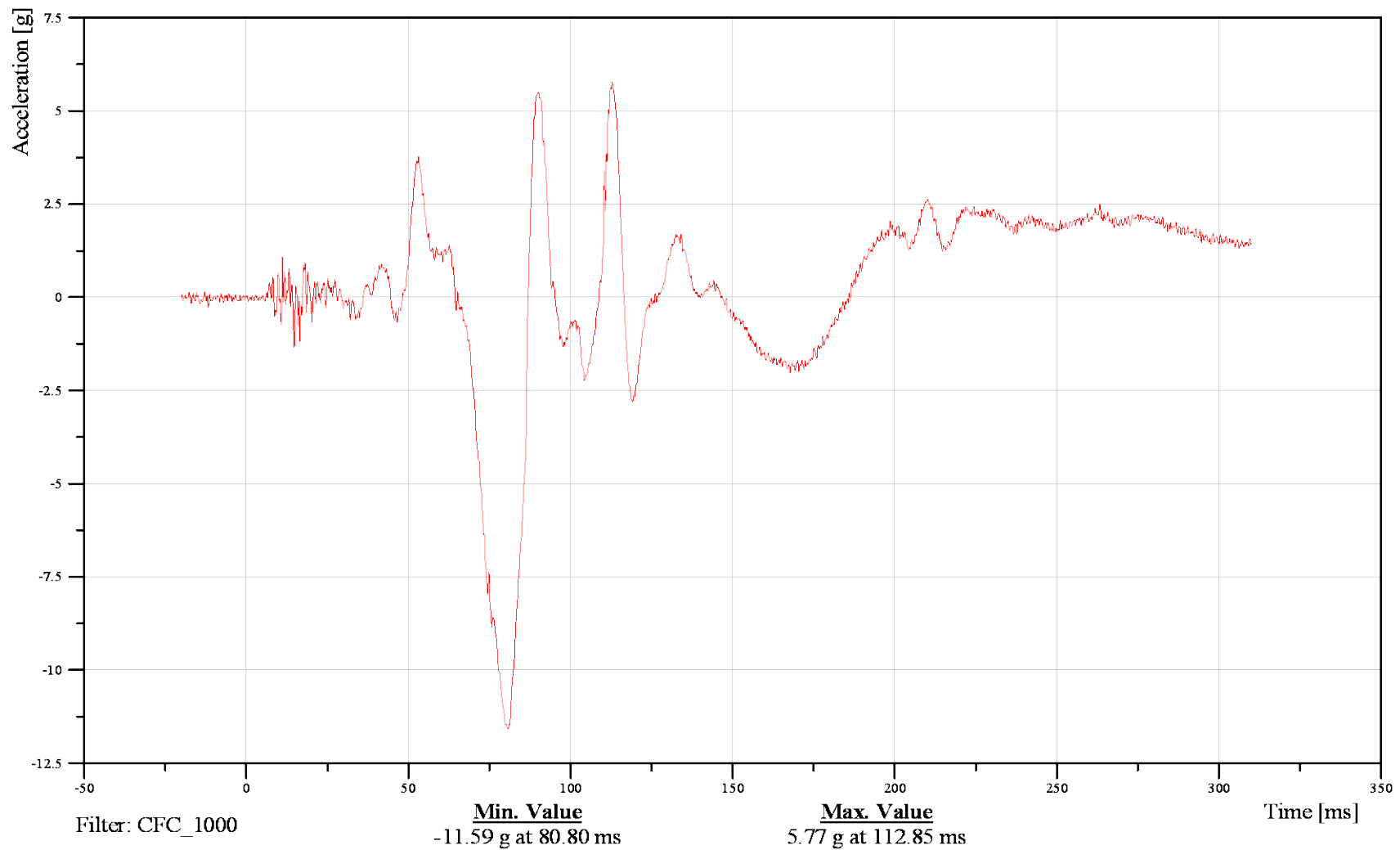
Time: 08:43

Customer: VRTC

14HEADCG00WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head A Resultant

Date: 06/17/2013

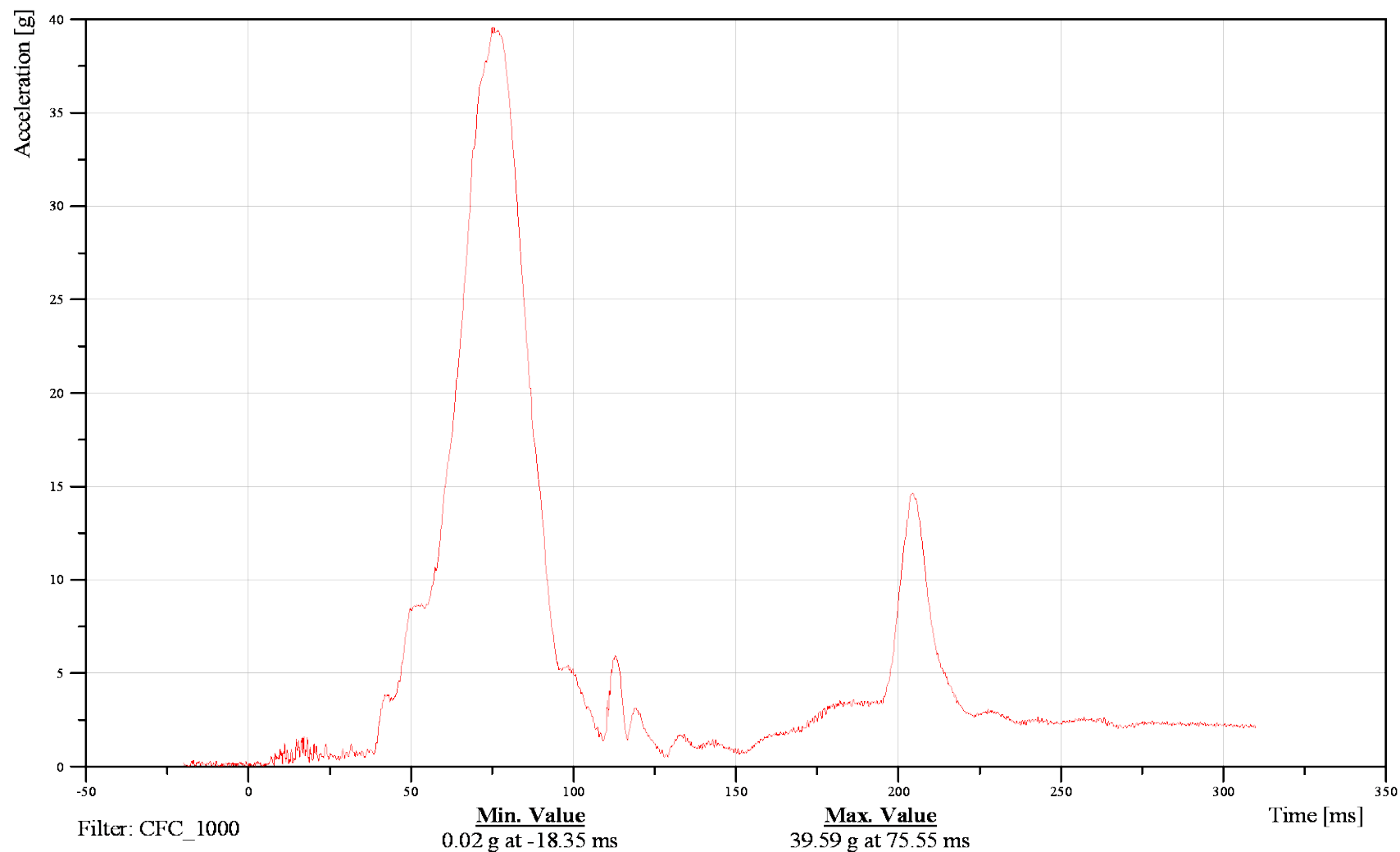
Time: 08:43

Customer: VRTC

14HEADCG00WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Rotational Acceleration Rx

Date: 06/17/2013

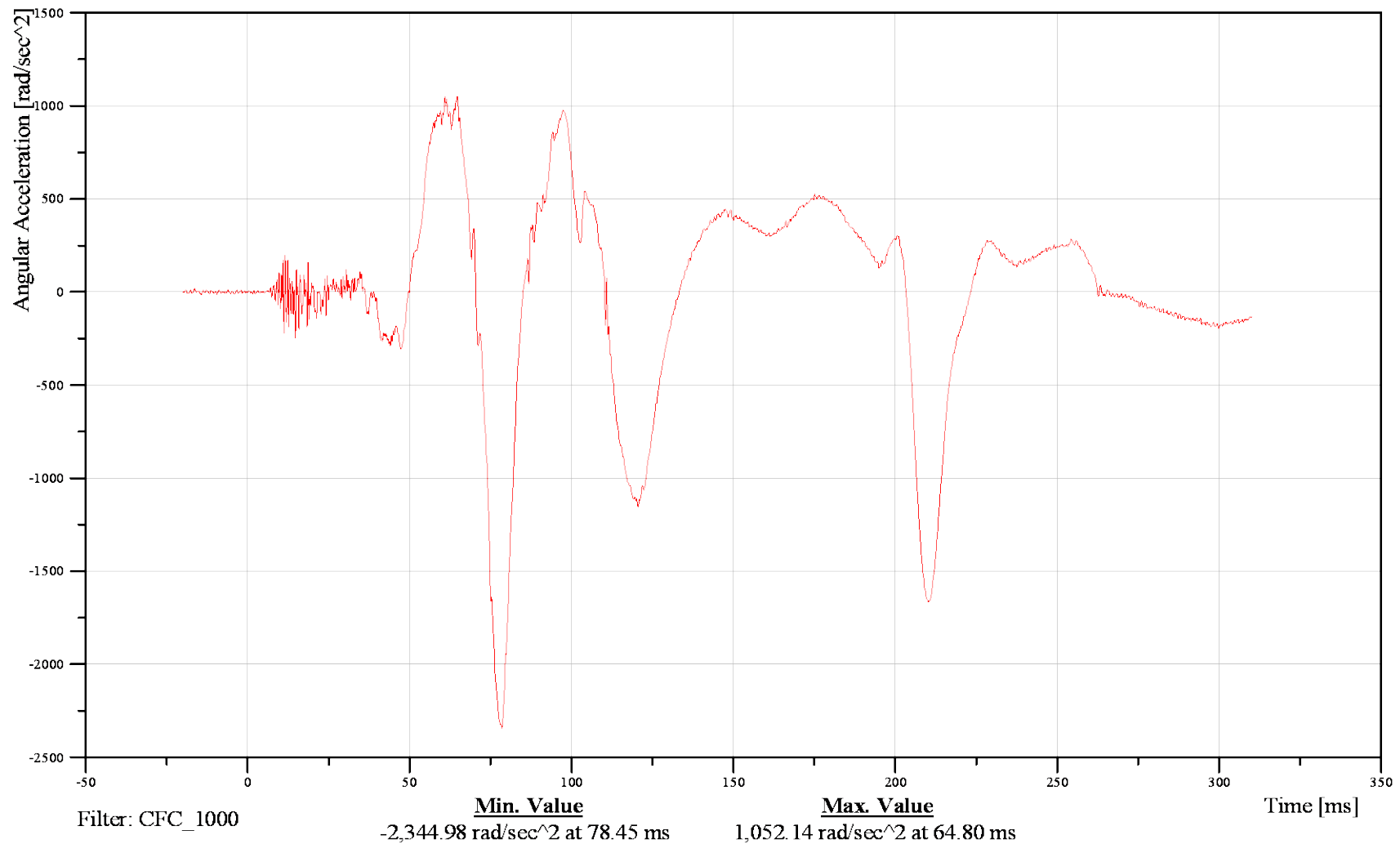
Time: 08:43

Customer: VRTC

14HEAD0000WFAAXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Rotational Acceleration Ry

Date: 06/17/2013

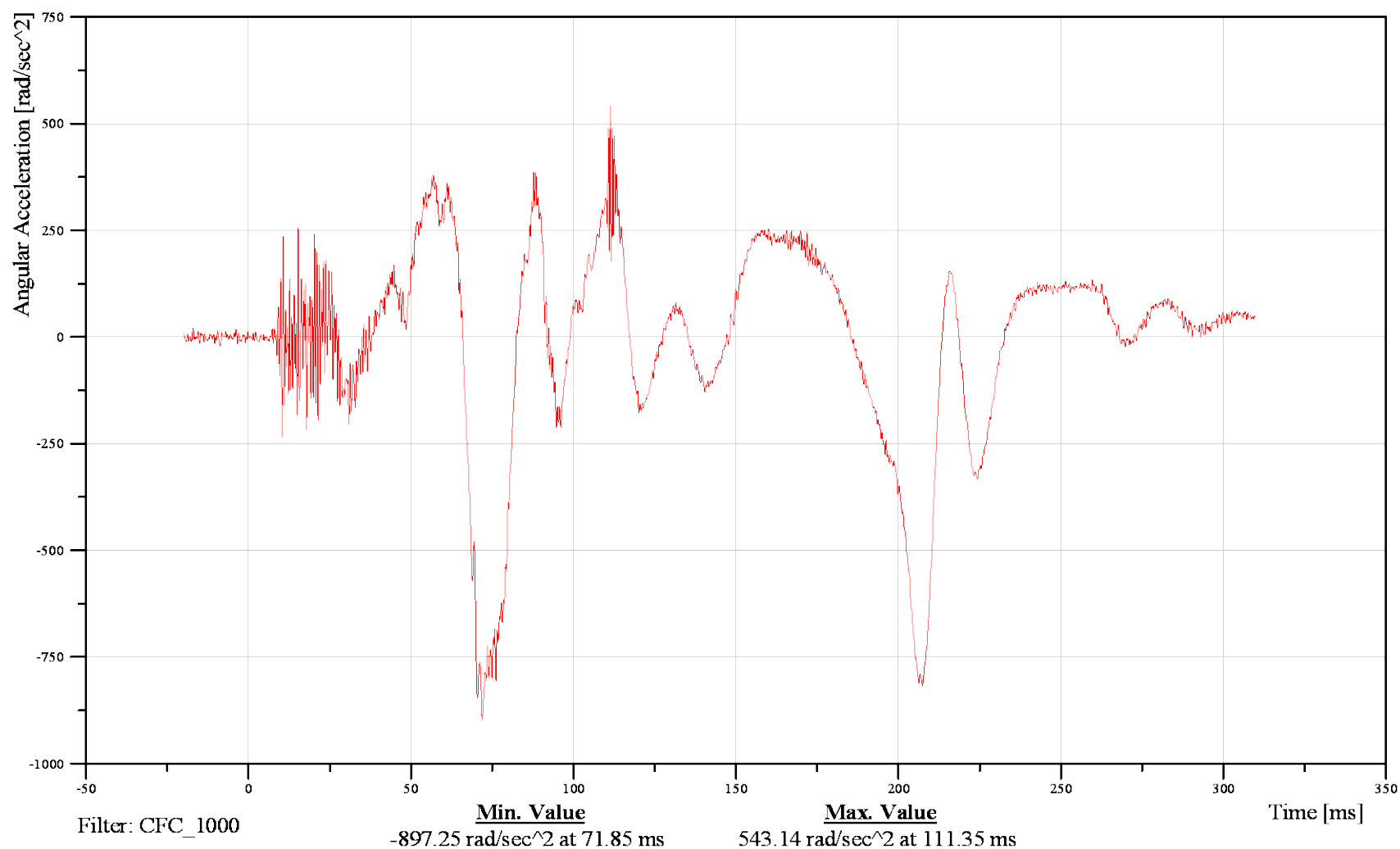
Time: 08:43

Customer: VRTC

14HEAD0000WFAAYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Rotational Acceleration Rz

Date: 06/17/2013

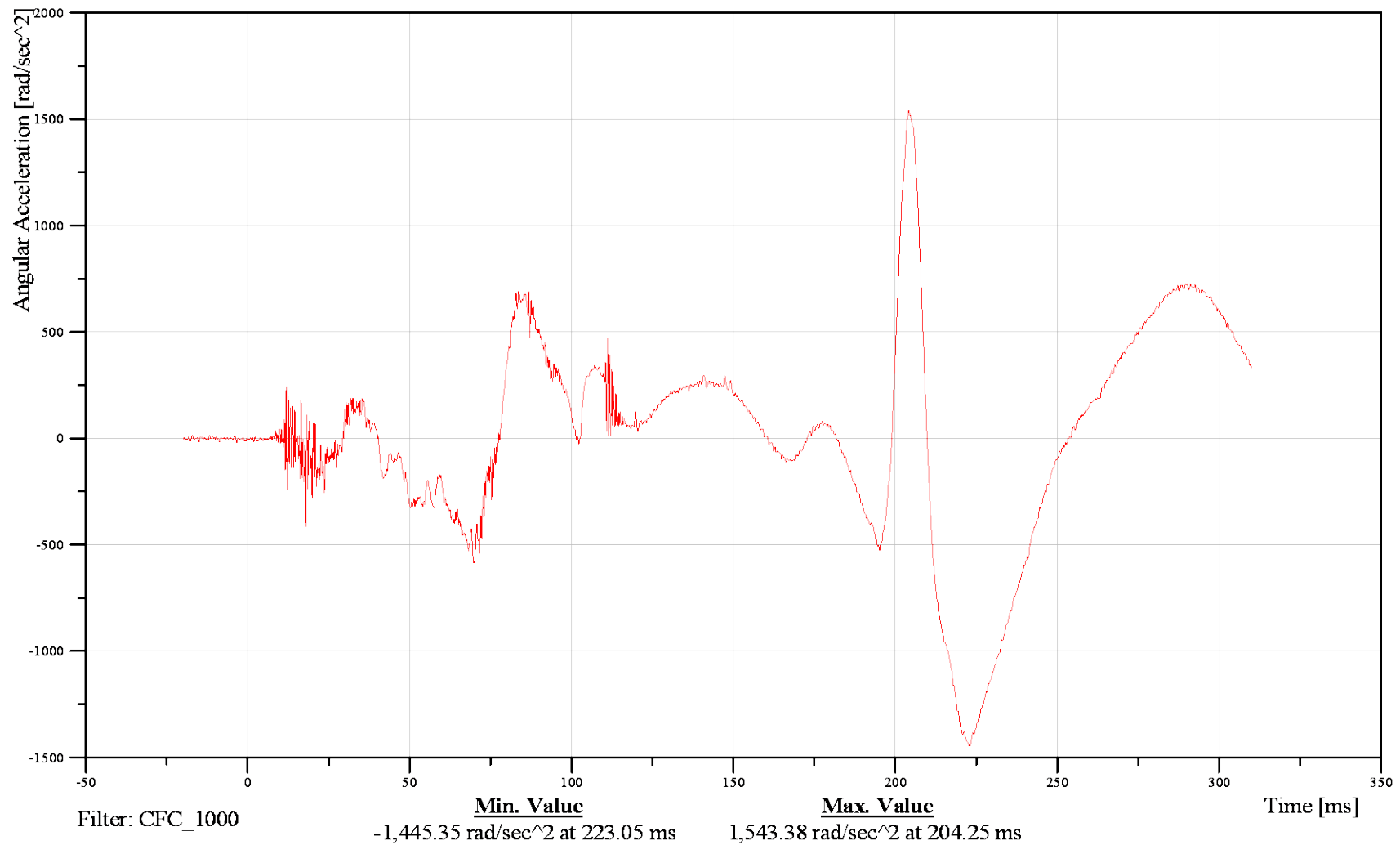
Time: 08:43

Customer: VRTC

14HEAD0000WFAAZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head X-Axis Angular Velocity

Date: 06/17/2013

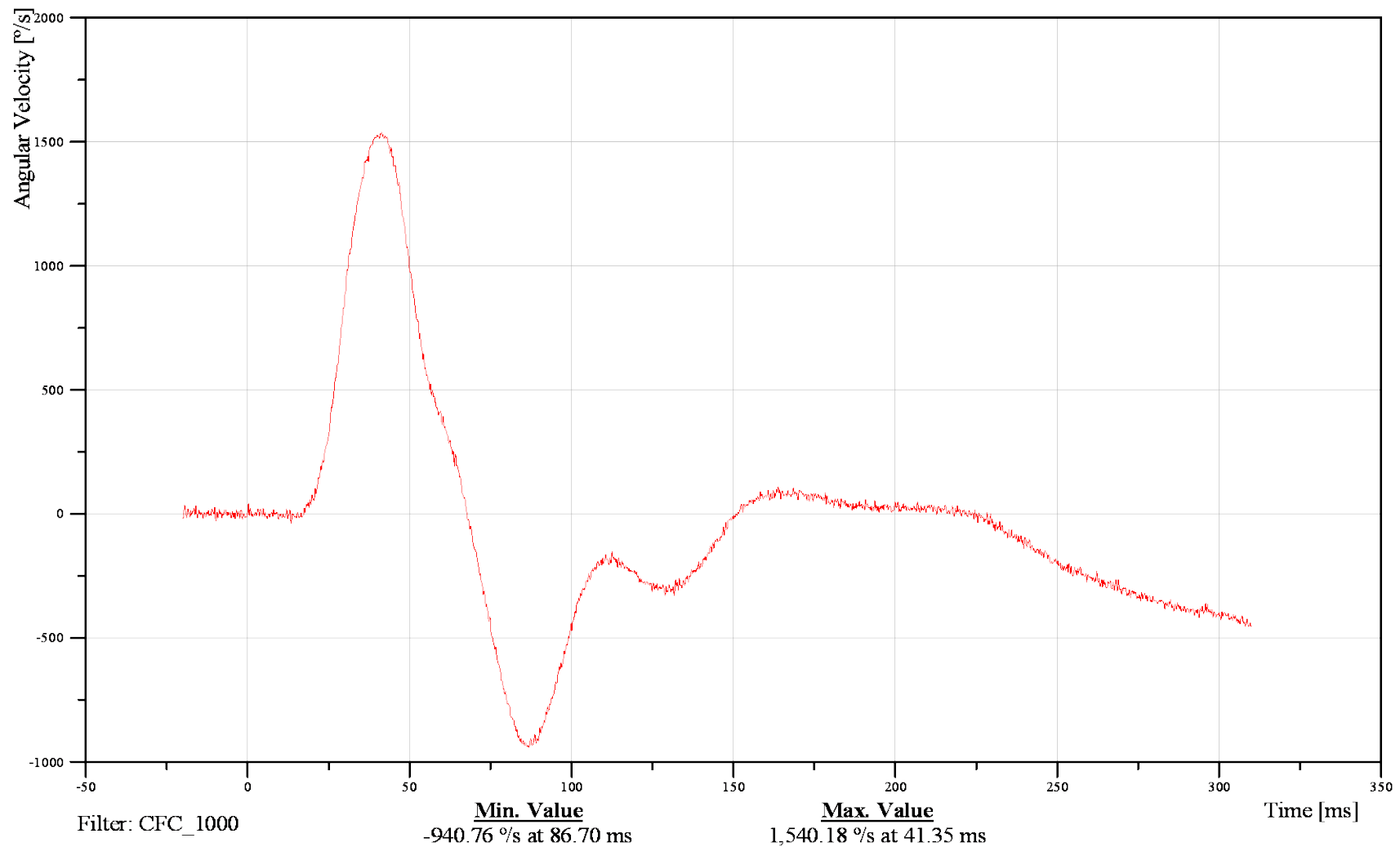
Time: 08:43

Customer: VRTC

14HEADCG00WFAVXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Y-Axis Angular Velocity

Date: 06/17/2013

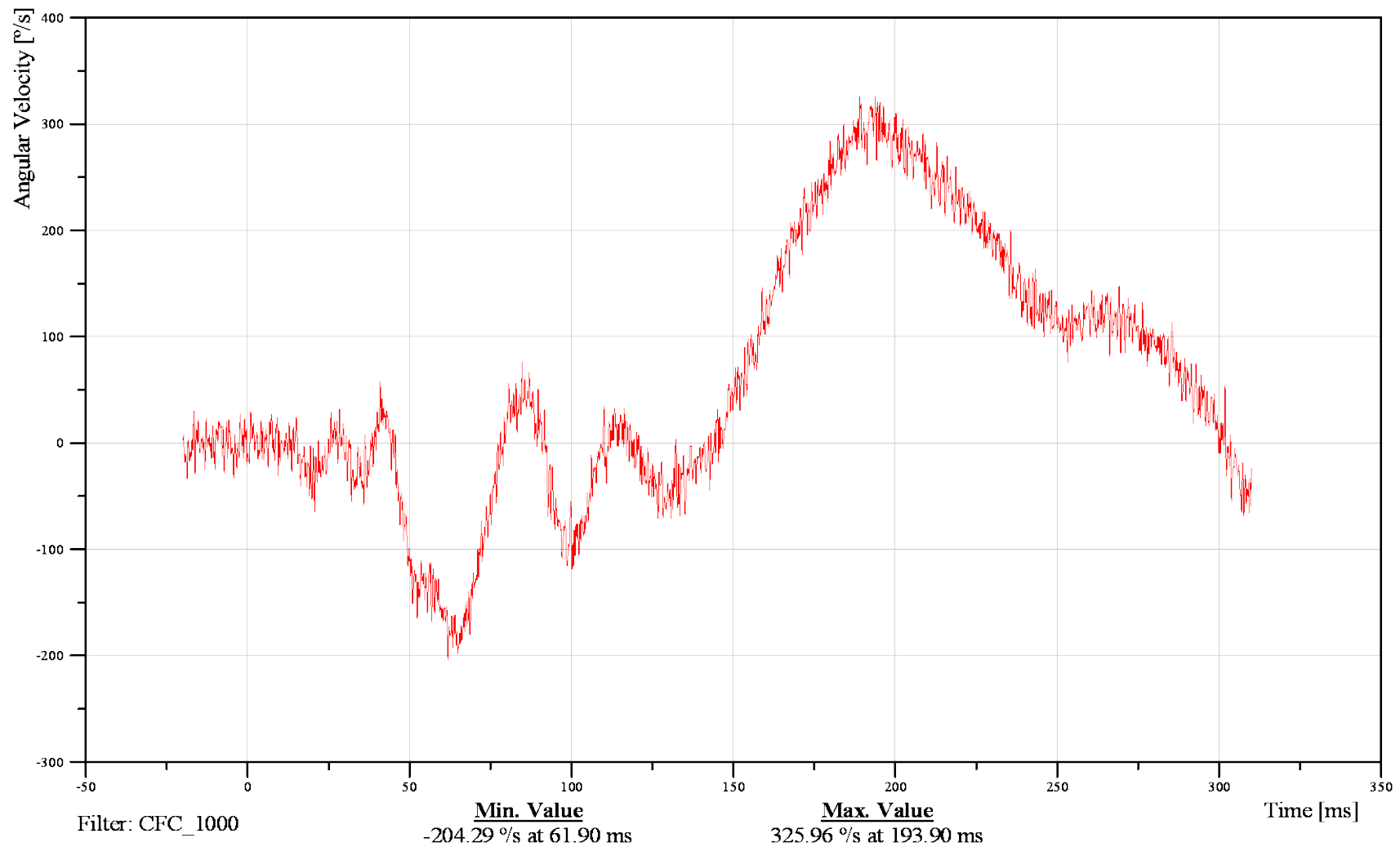
Time: 08:43

Customer: VRTC

14HEADCG00WFAVYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Head Z-Axis Angular Velocity

Date: 06/17/2013

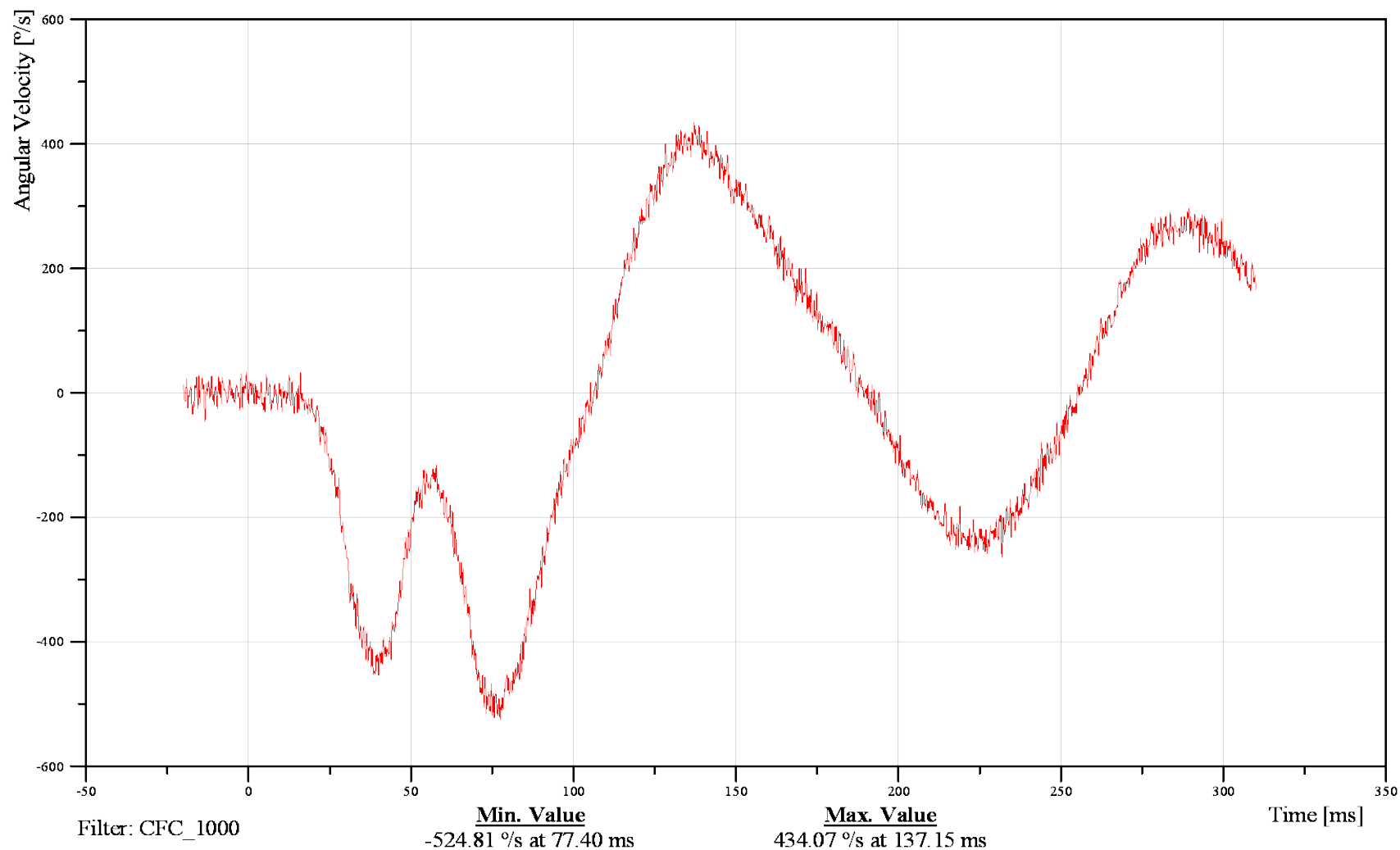
Time: 08:43

Customer: VRTC

14HEADCG00WFAVZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Force Fx

Date: 06/17/2013

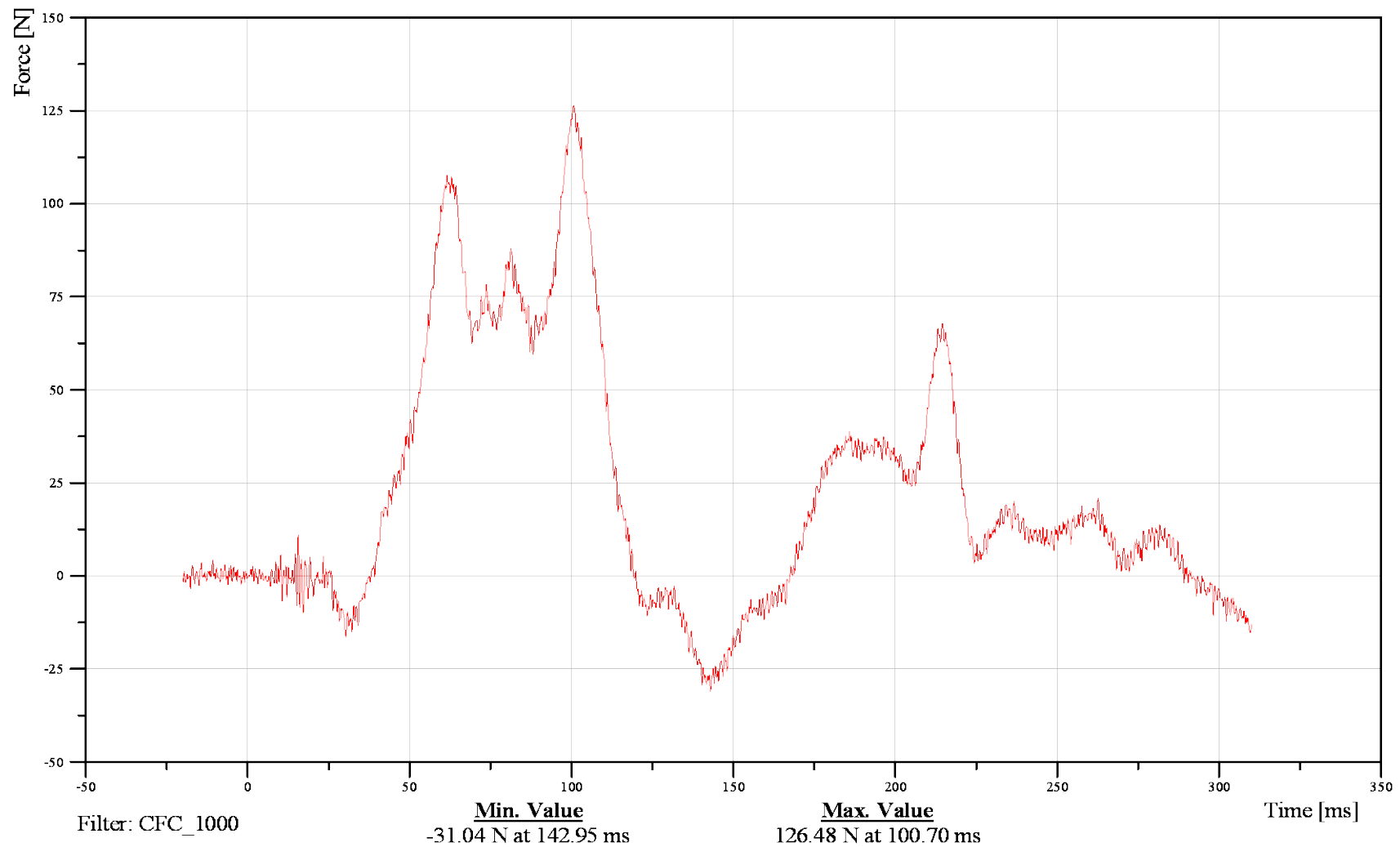
Time: 08:43

Customer: VRTC

14NECKUP00WFFOXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Force Fy

Date: 06/17/2013

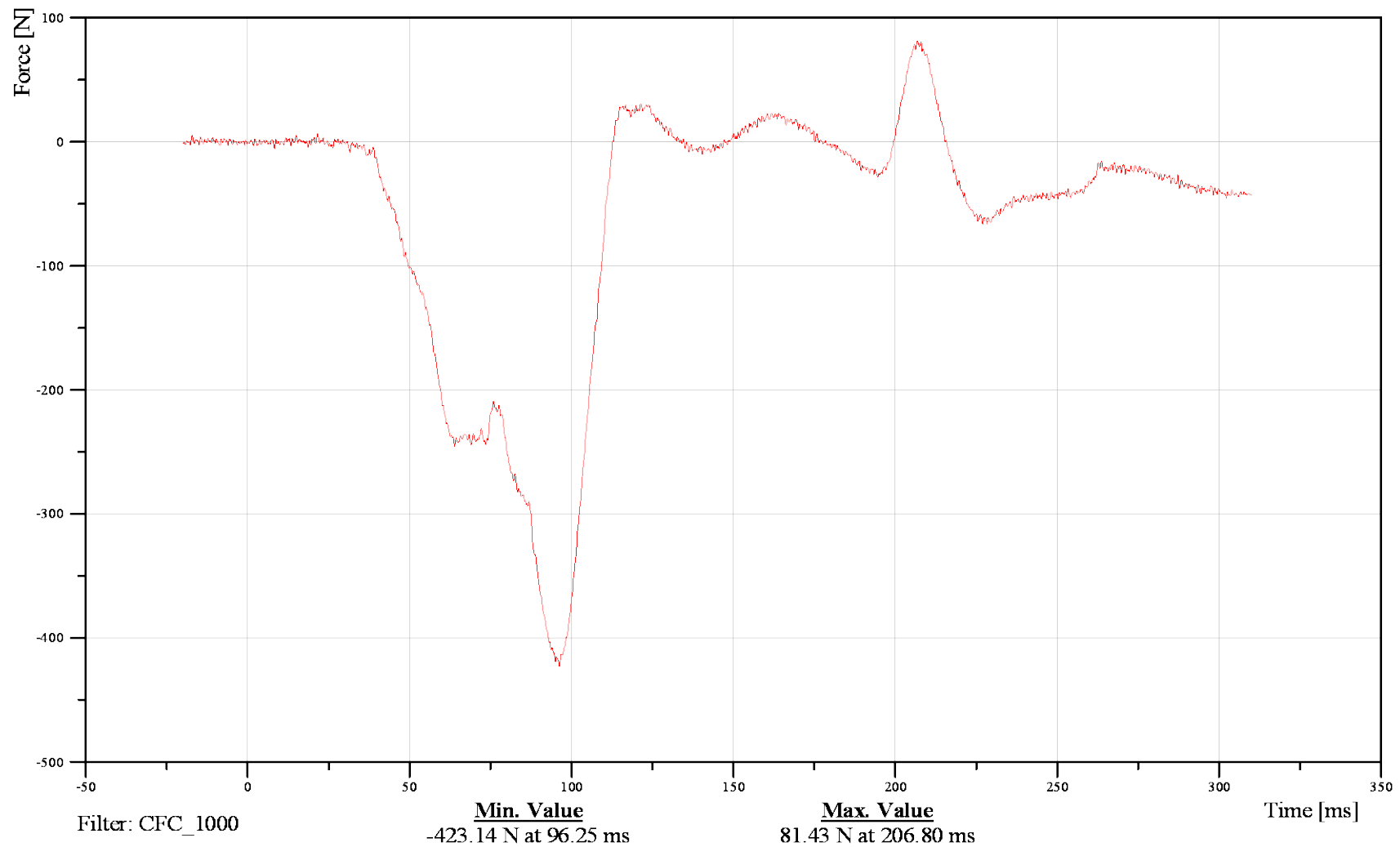
Time: 08:43

Customer: VRTC

14NECKUP00WFFOYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Force Fz

Date: 06/17/2013

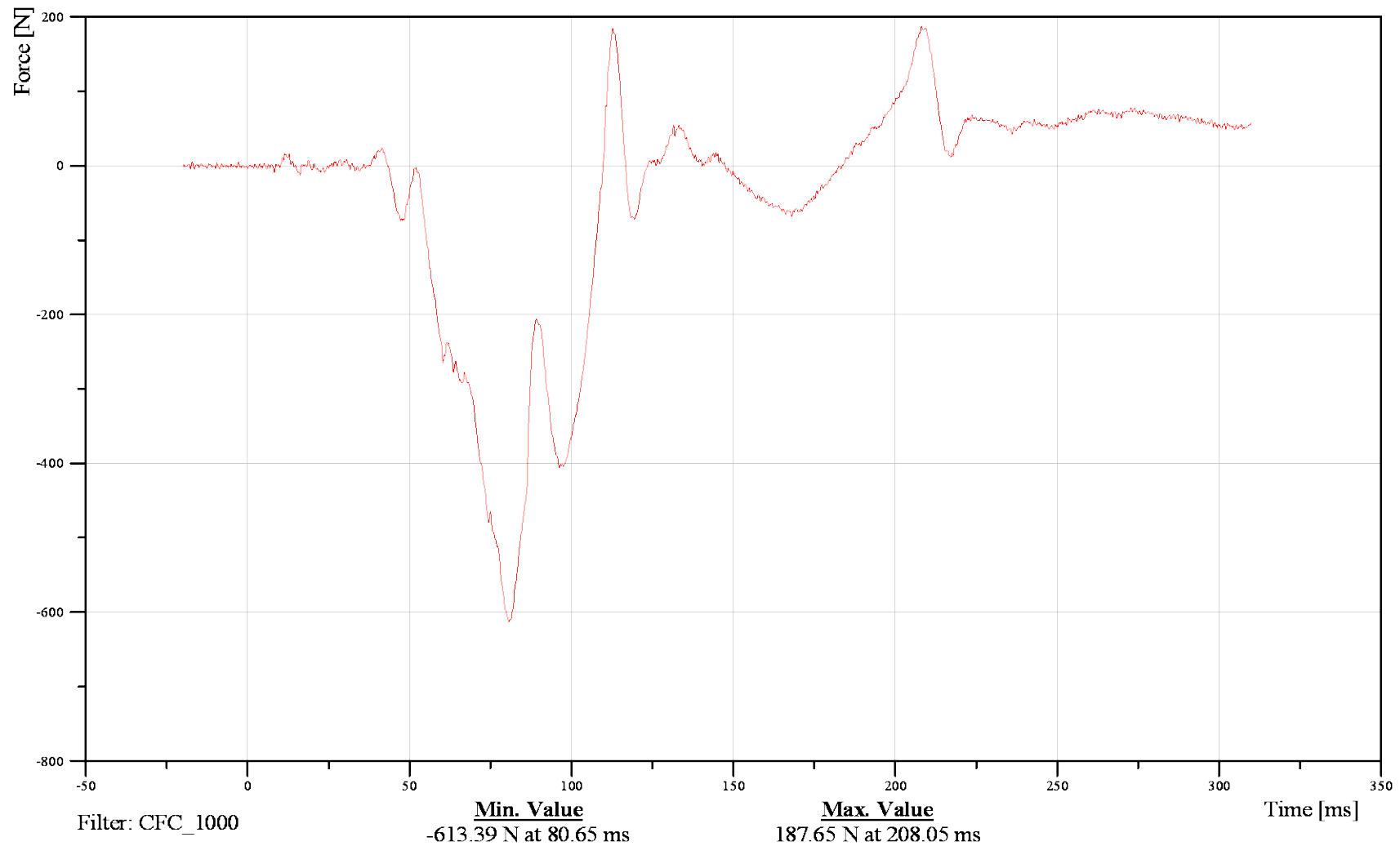
Time: 08:43

Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Moment Mx

Date: 06/17/2013

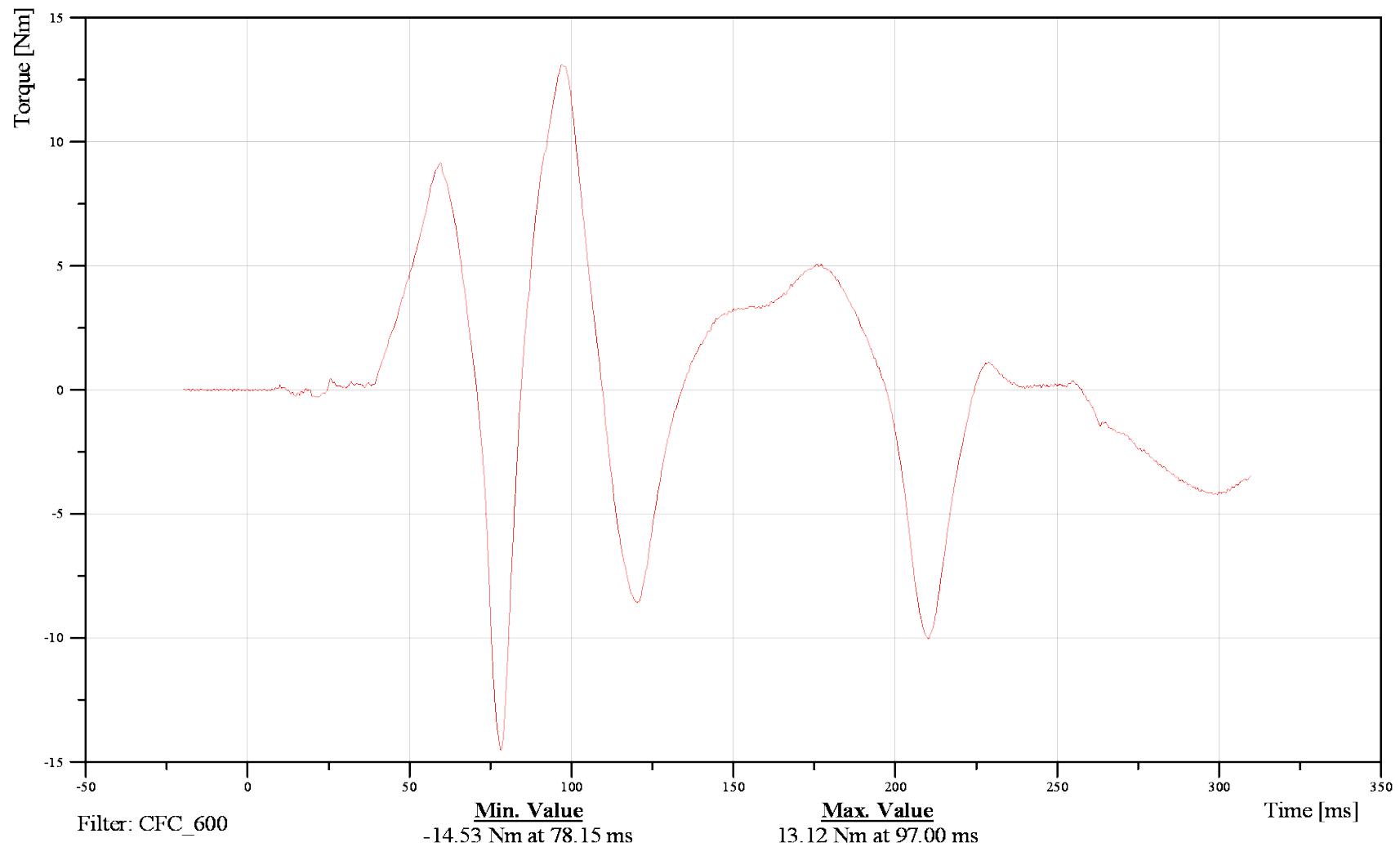
Time: 08:43

Customer: VRTC

14NECKUP00WFM0XB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Moment My

Date: 06/17/2013

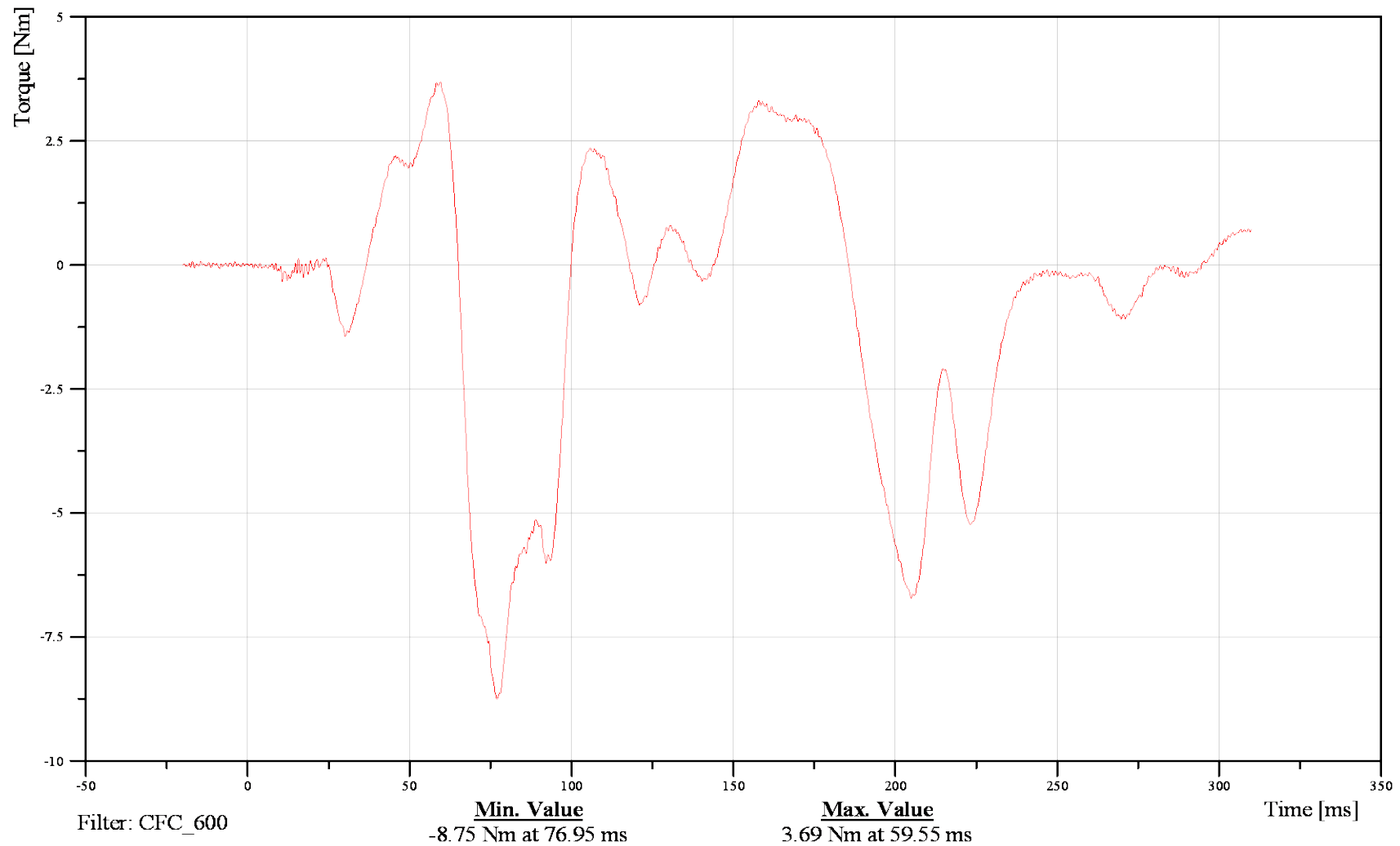
Time: 08:43

Customer: VRTC

14NECKUP00WFM0YB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Upper Moment Mz

Date: 06/17/2013

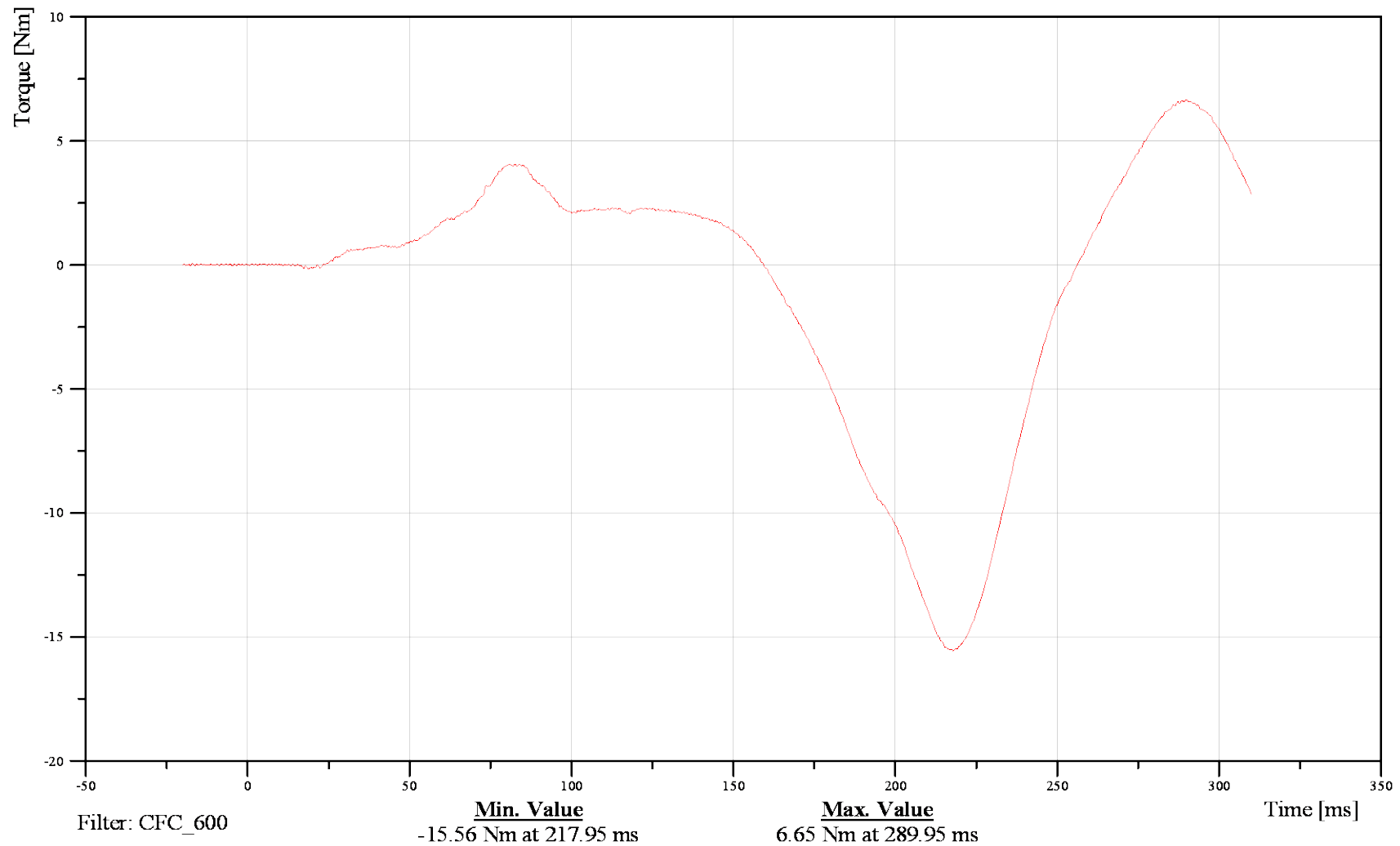
Time: 08:43

Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Date: 06/17/2013

Time: 08:43

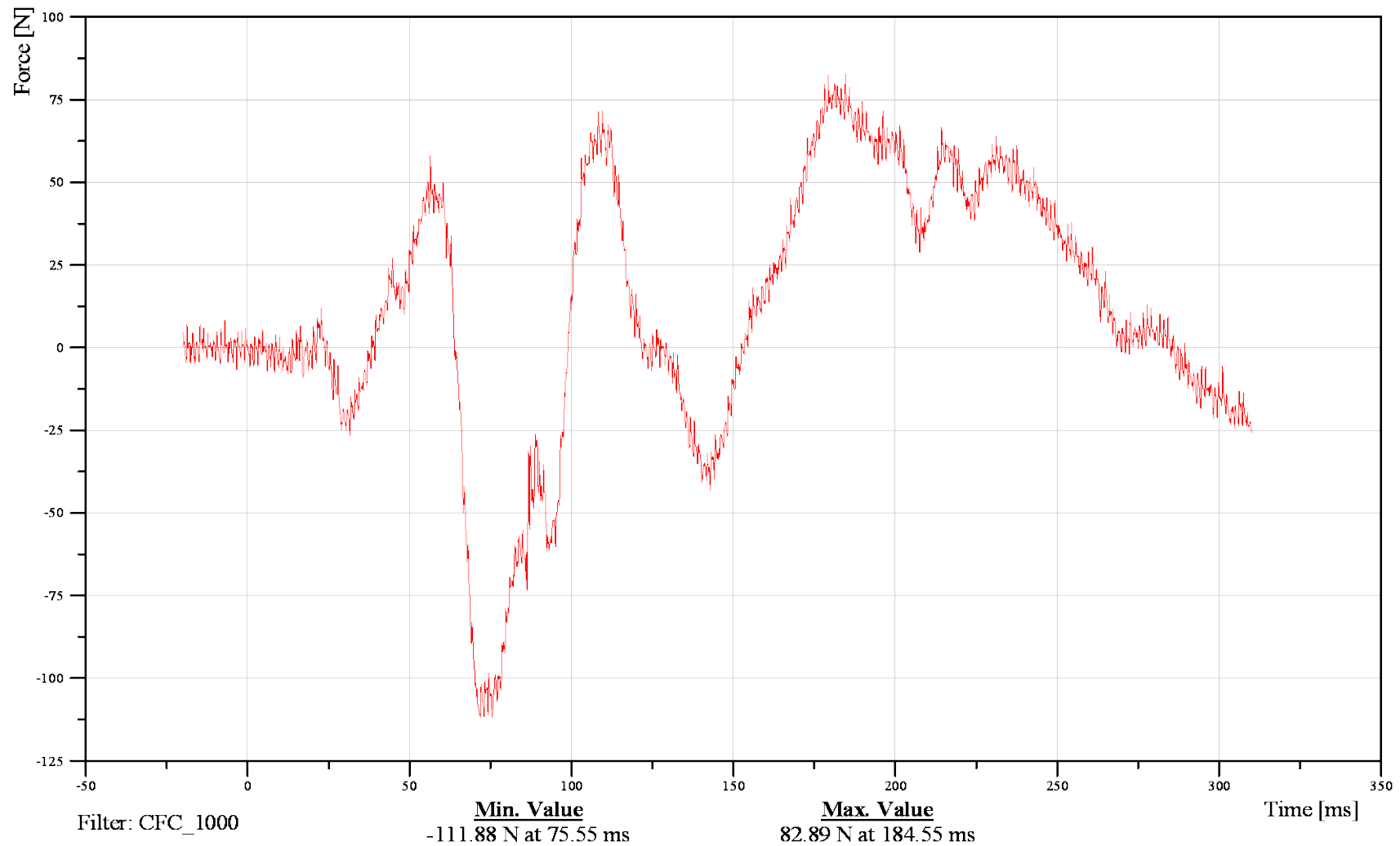
Neck Lower Force Fx

Customer: VRTC

14NECKLO00WFFOXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Force Fy

Date: 06/17/2013

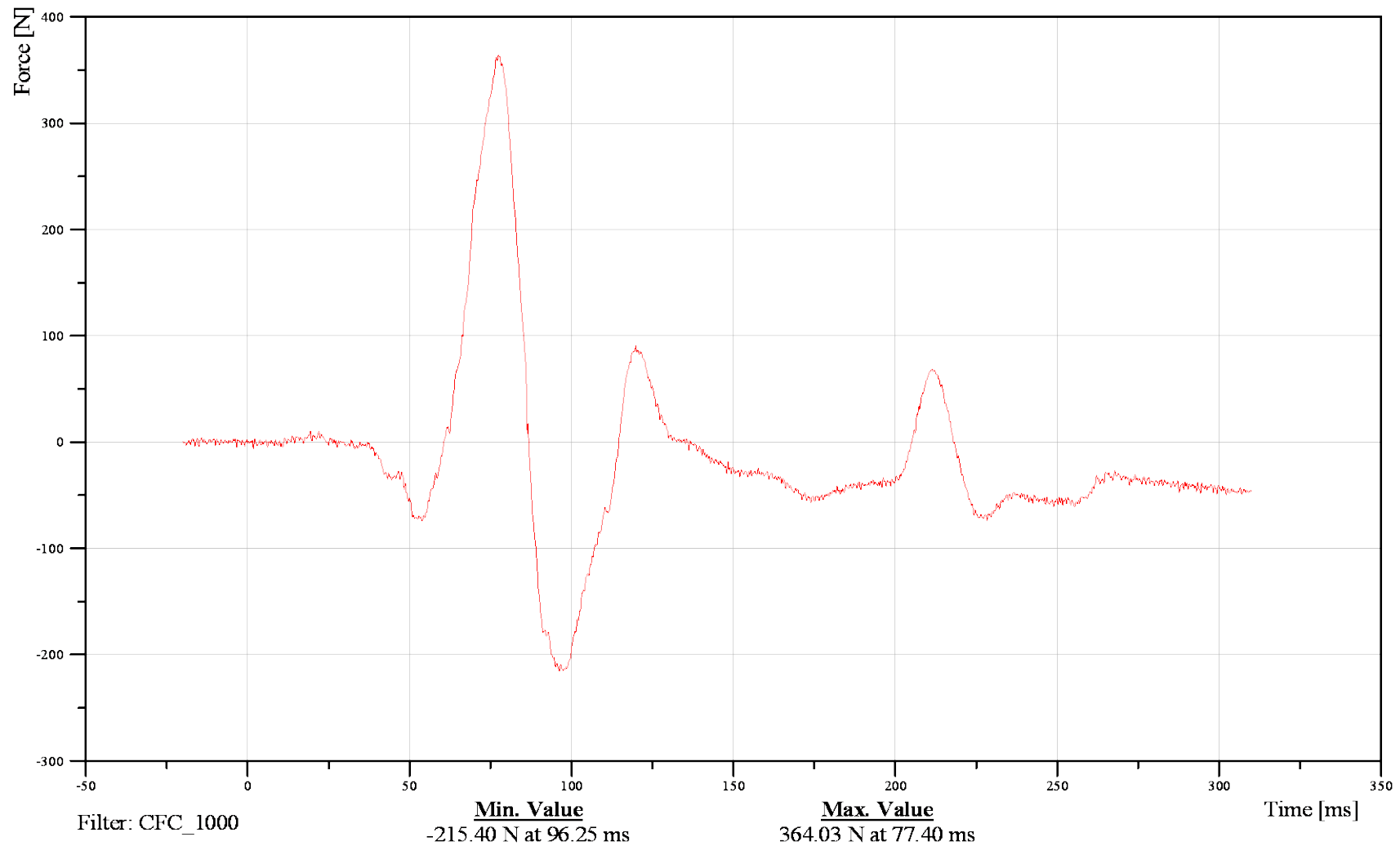
Time: 08:43

Customer: VRTC

14NECKLO00WFFOYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Force Fz

Date: 06/17/2013

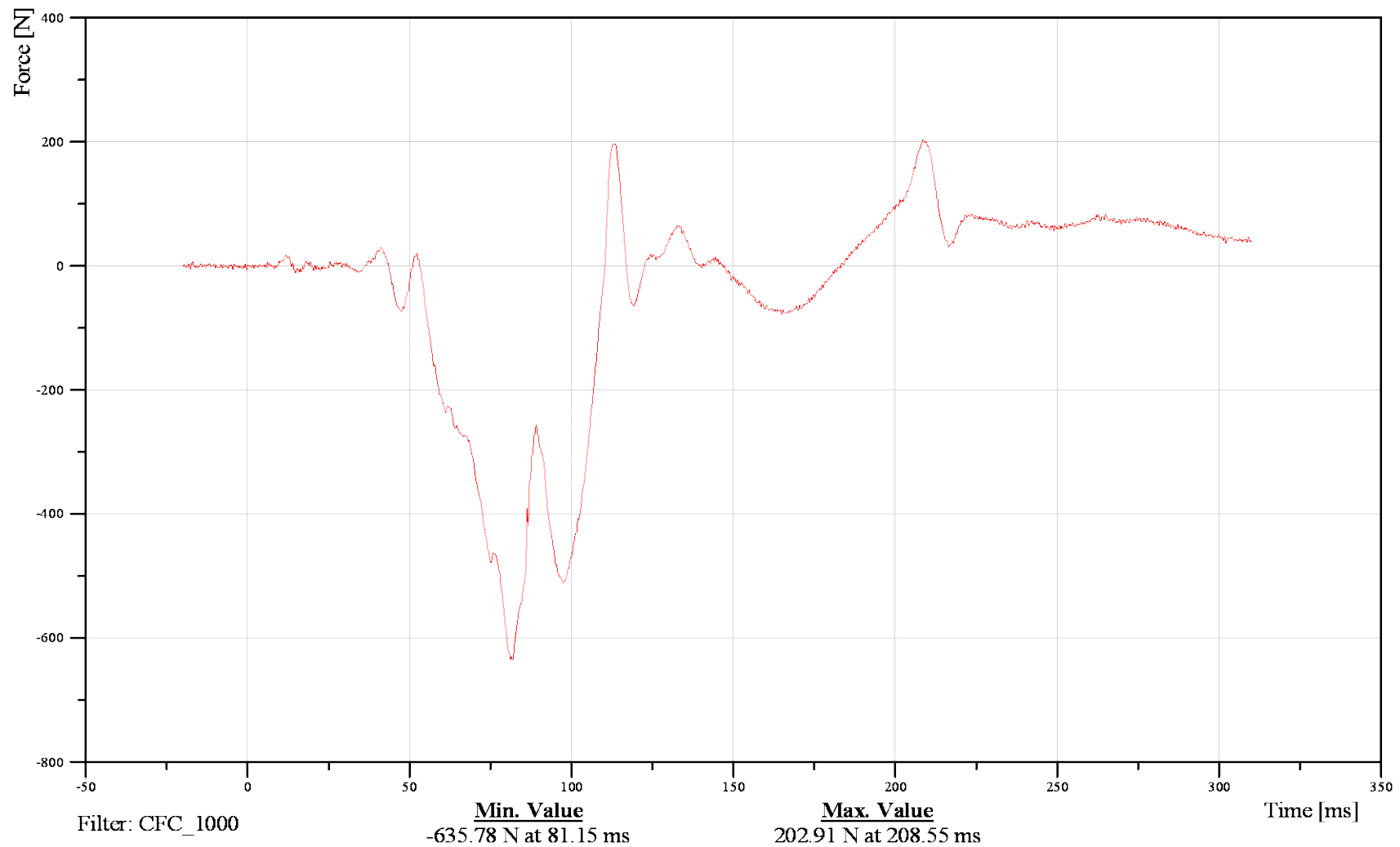
Time: 08:43

Customer: VRTC

14NECKLO00WFFOZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Moment Mx

Date: 06/17/2013

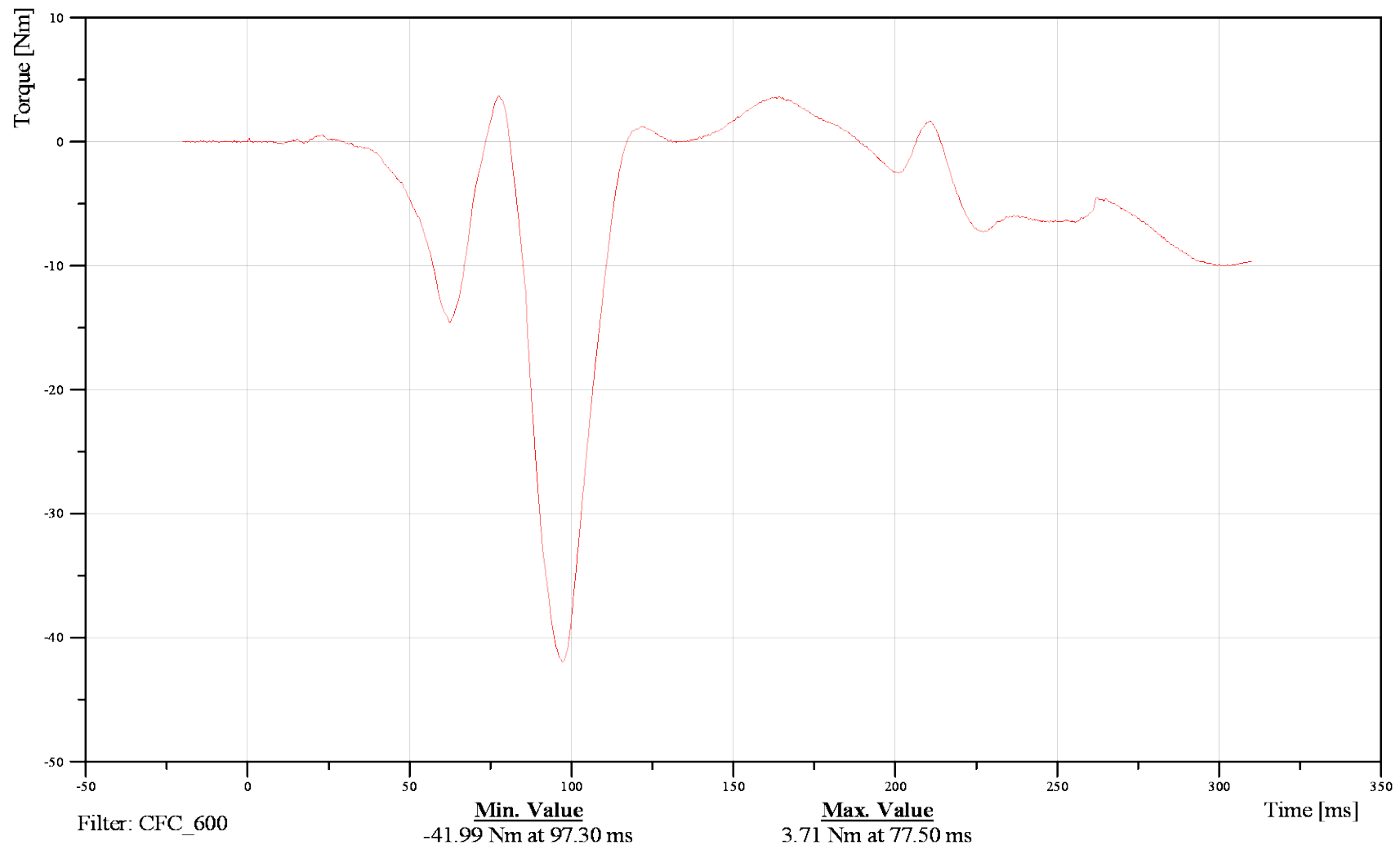
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Customer: VRTC

14NECKLO00WFM0XB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Moment My

Date: 06/17/2013

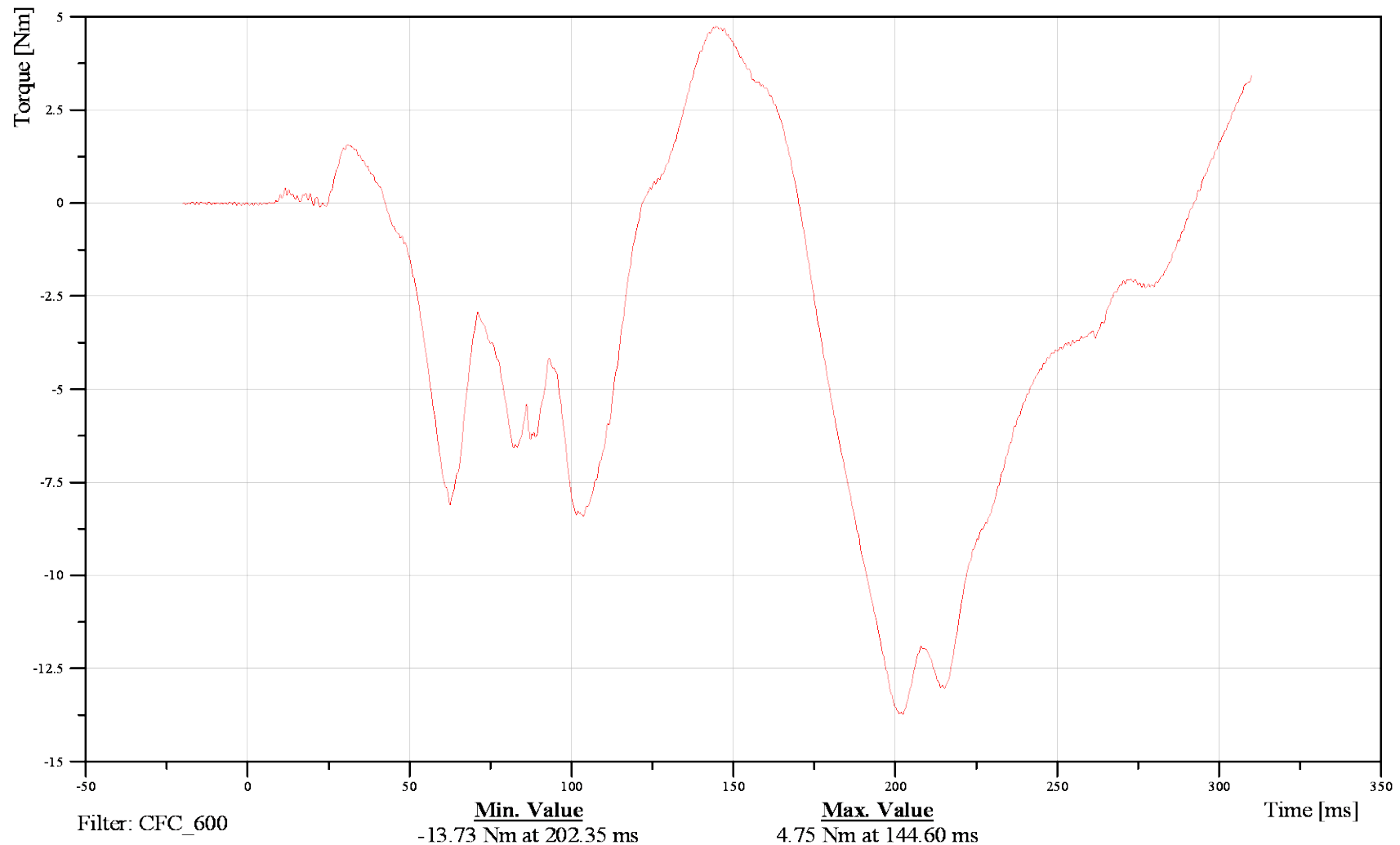
Time: 08:43

Customer: VRTC

14NECKLO00WFM0YB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Neck Lower Moment Mz

Date: 06/17/2013

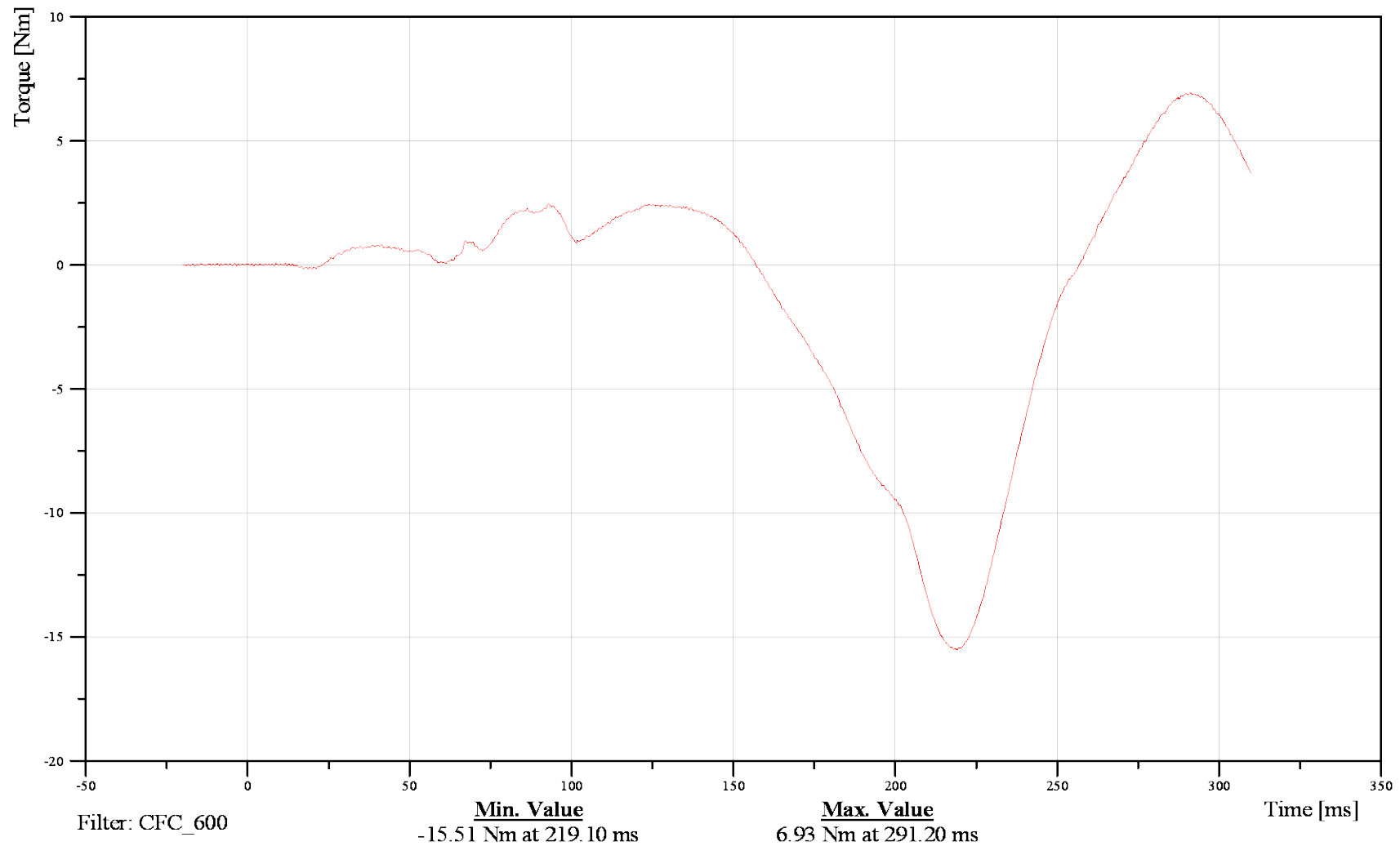
Time: 08:43

Customer: VRTC

14NECKLO00WFMOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Longitudinal Ax

Date: 06/17/2013

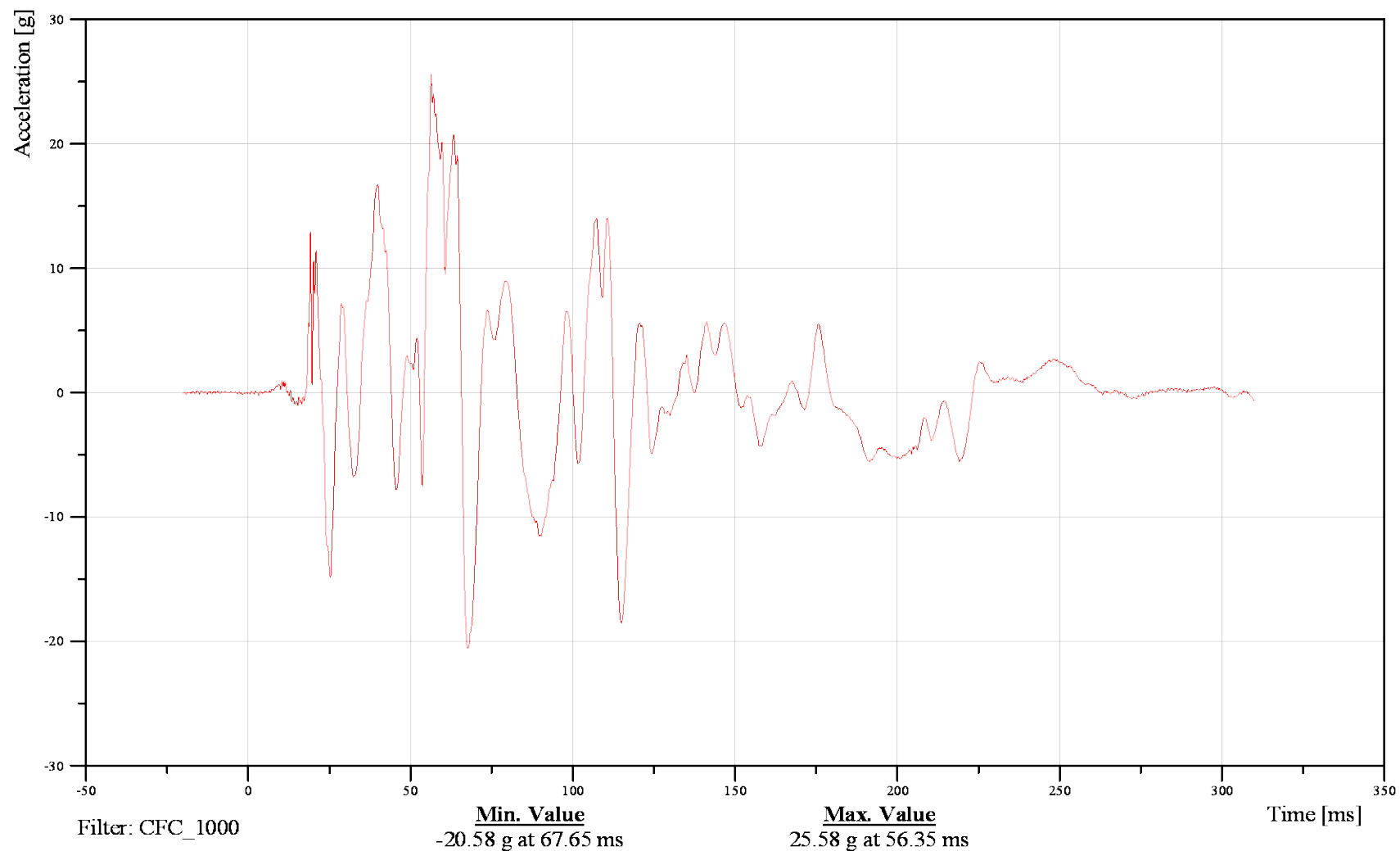
Time: 08:43

Customer: VRTC

14SHLDLE00WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Lateral Ay

Date: 06/17/2013

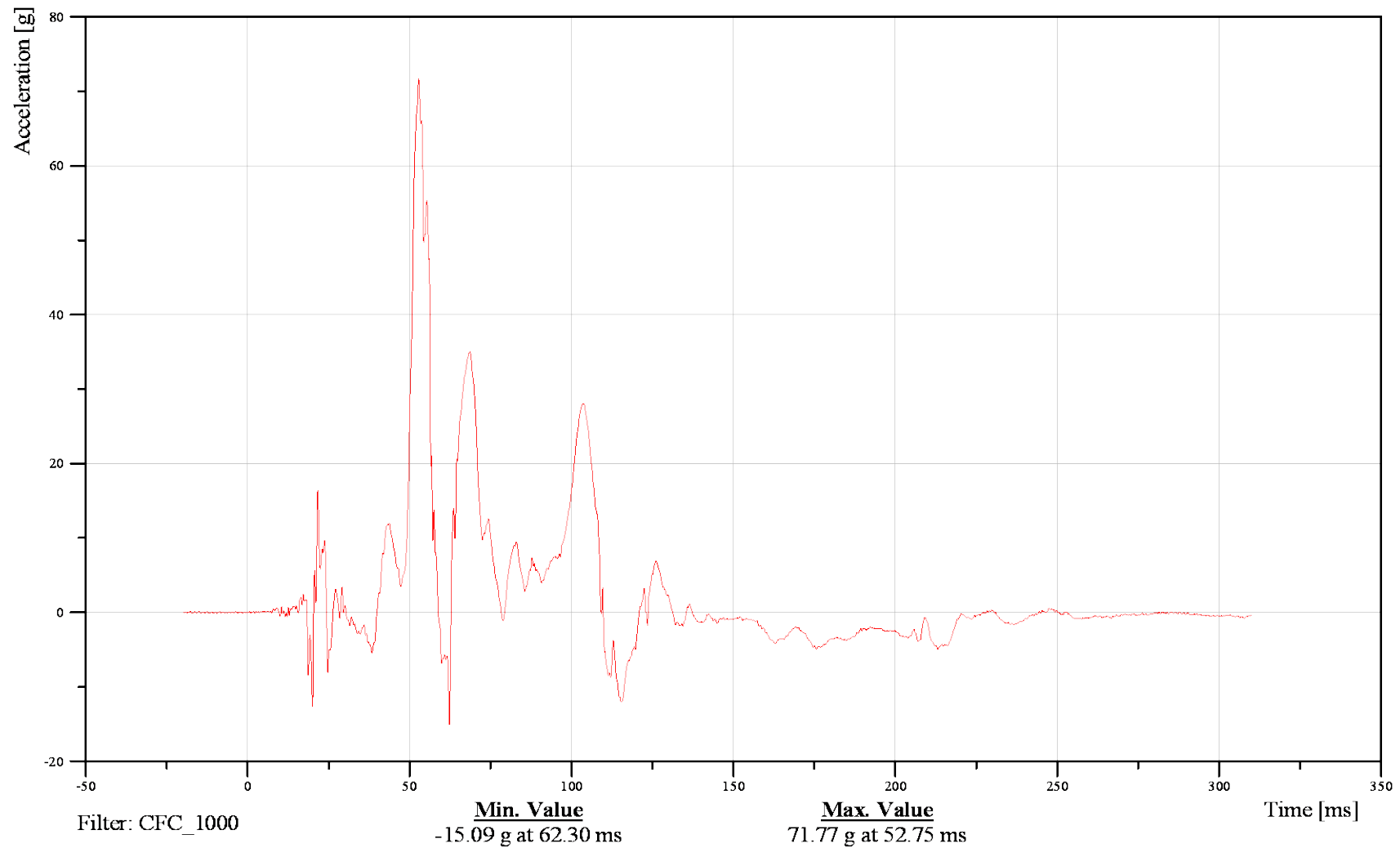
Time: 08:43

Customer: VRTC

14SHLDLE00WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Vertical Az

Date: 06/17/2013

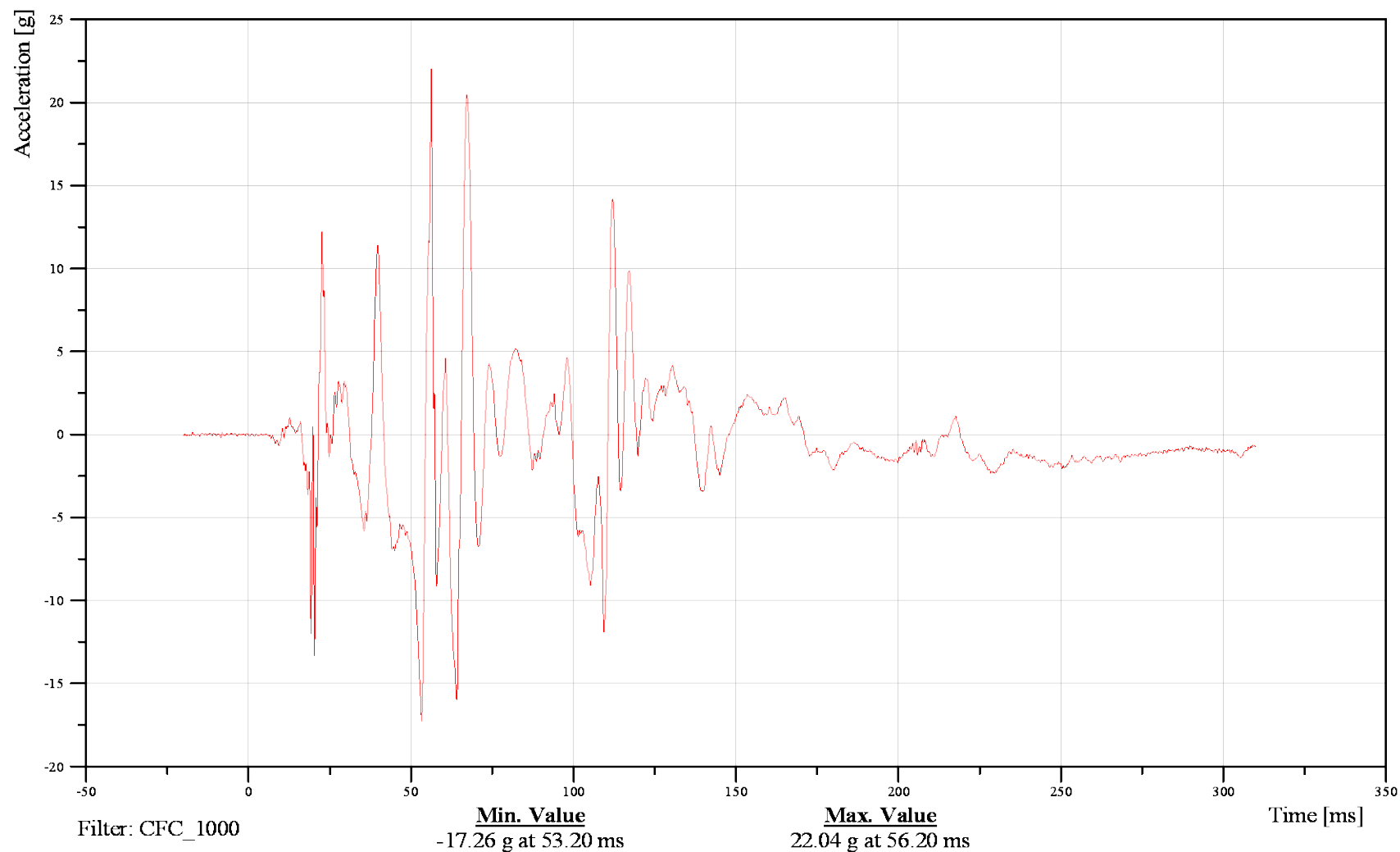
Time: 08:43

Customer: VRTC

14SHLDLE00WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder A Resultant

Date: 06/17/2013

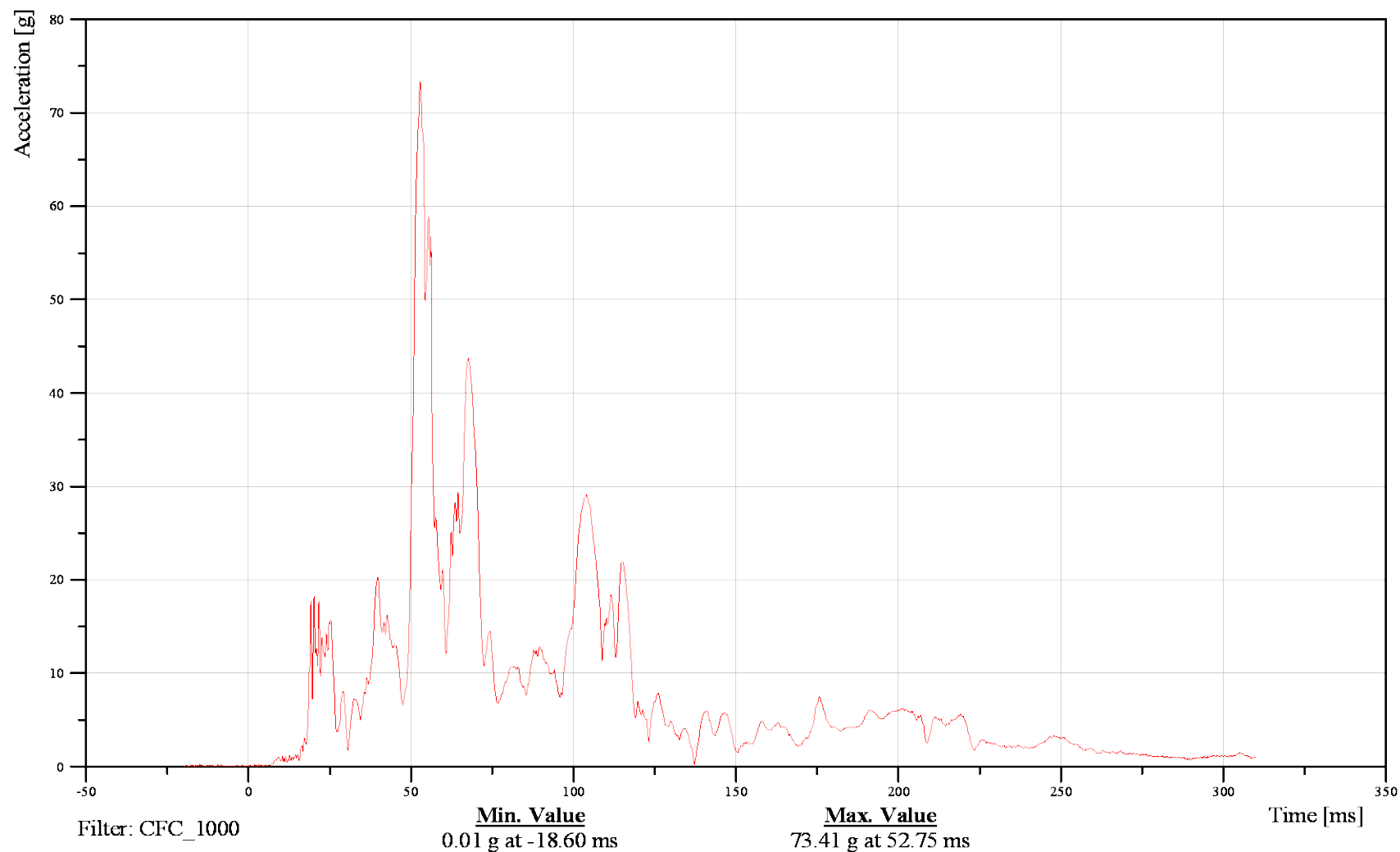
Time: 08:43

Customer: VRTC

14SHLDLE00WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Force Fx

Date: 06/17/2013

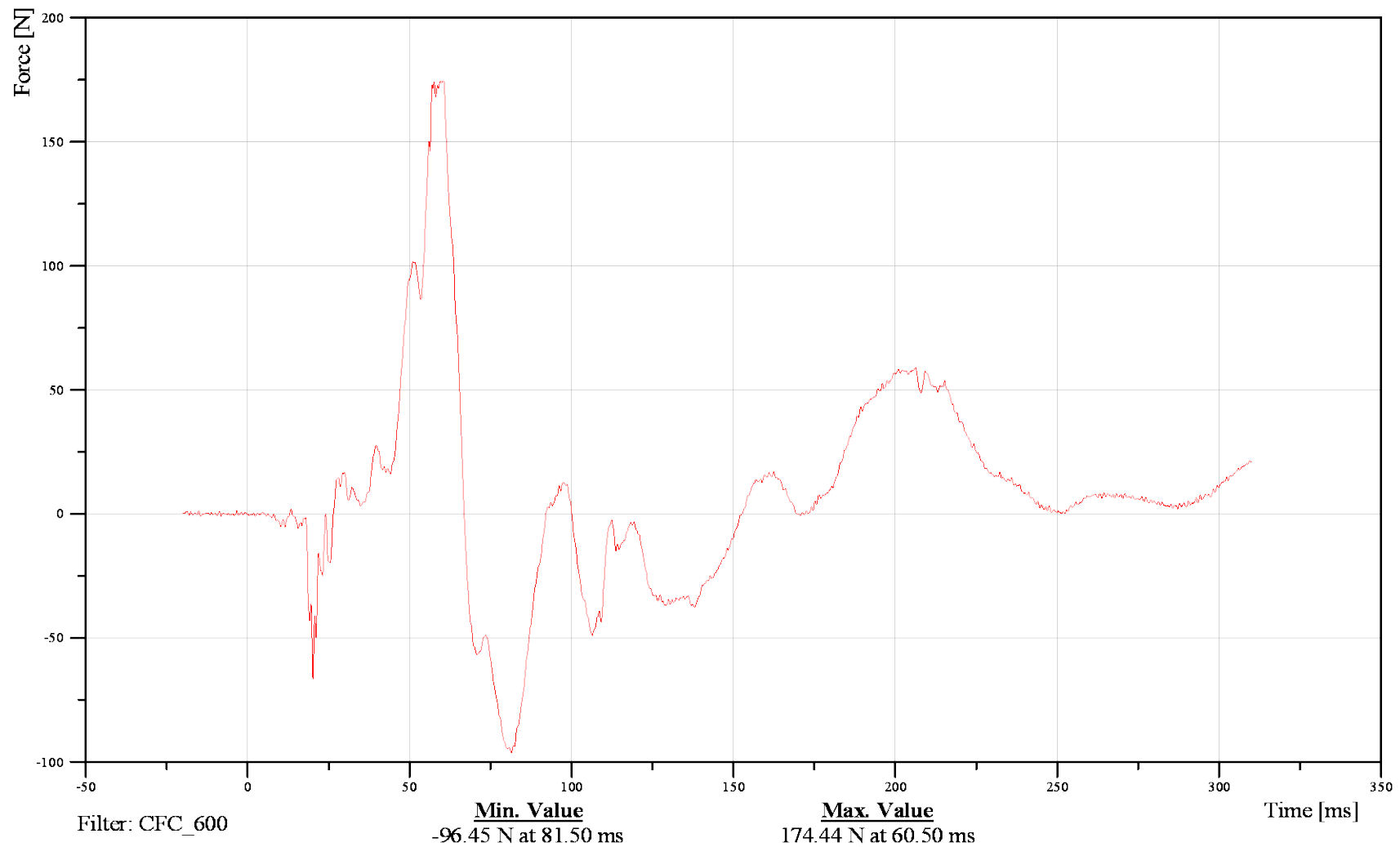
Time: 08:43

Customer: VRTC

14SHLDLE00WFFOXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Force Fy

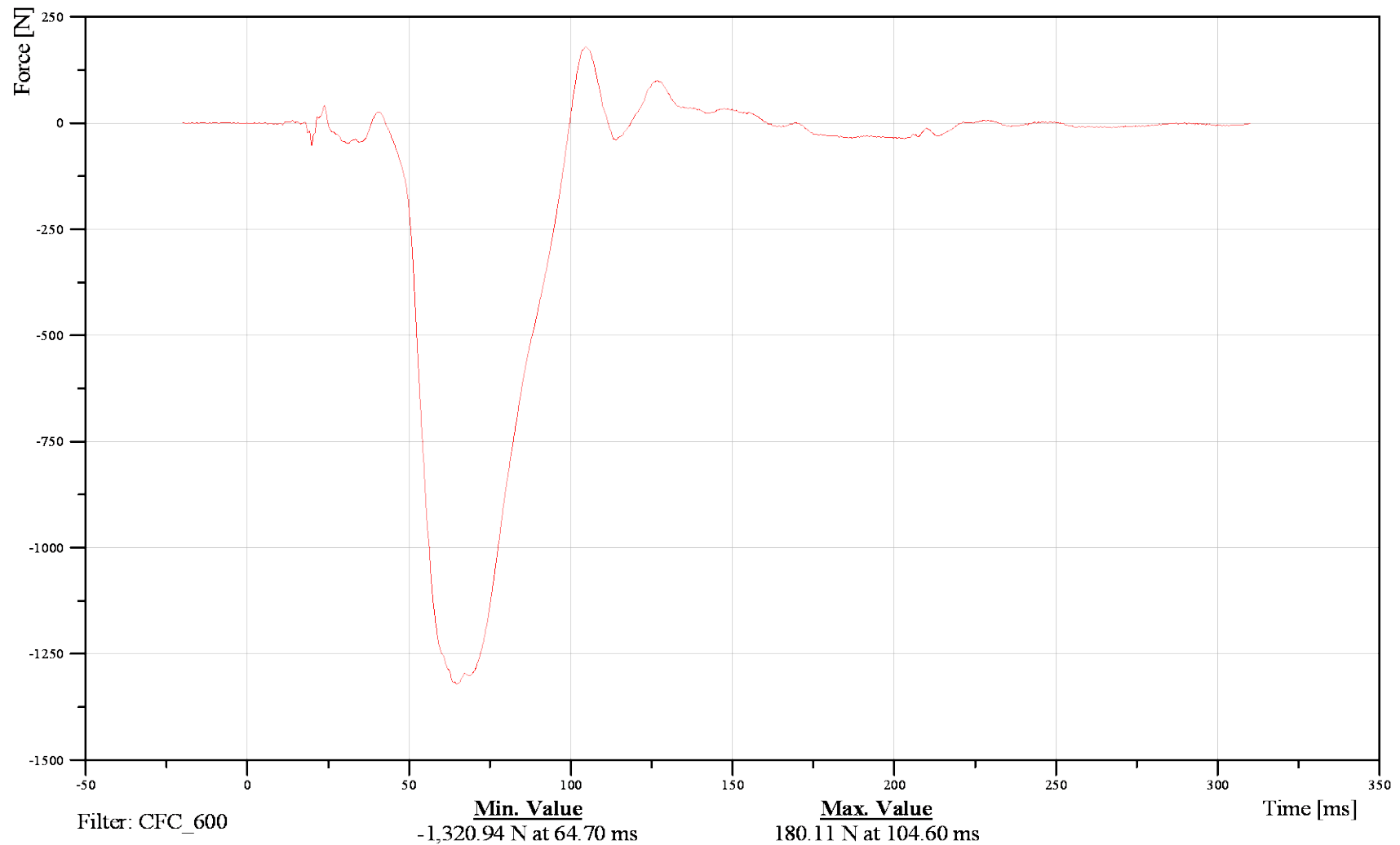
Date: 06/17/2013
Time: 08:43

Customer: VRTC

14SHLDLE00WFFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Force Fz

Date: 06/17/2013

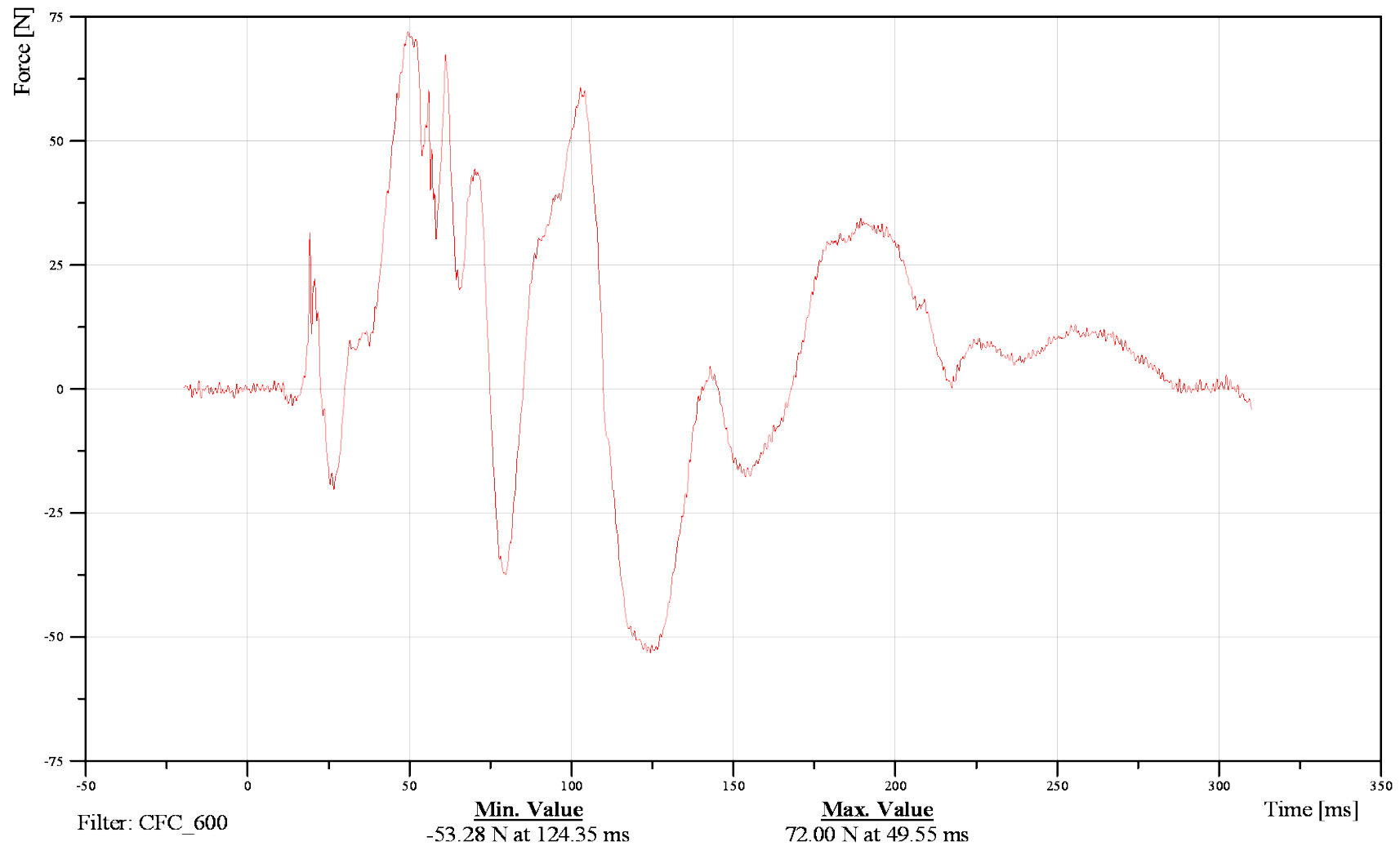
Time: 08:43

Customer: VRTC

14SHLDLE00WFFOZB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Displacement Dy

Date: 06/17/2013

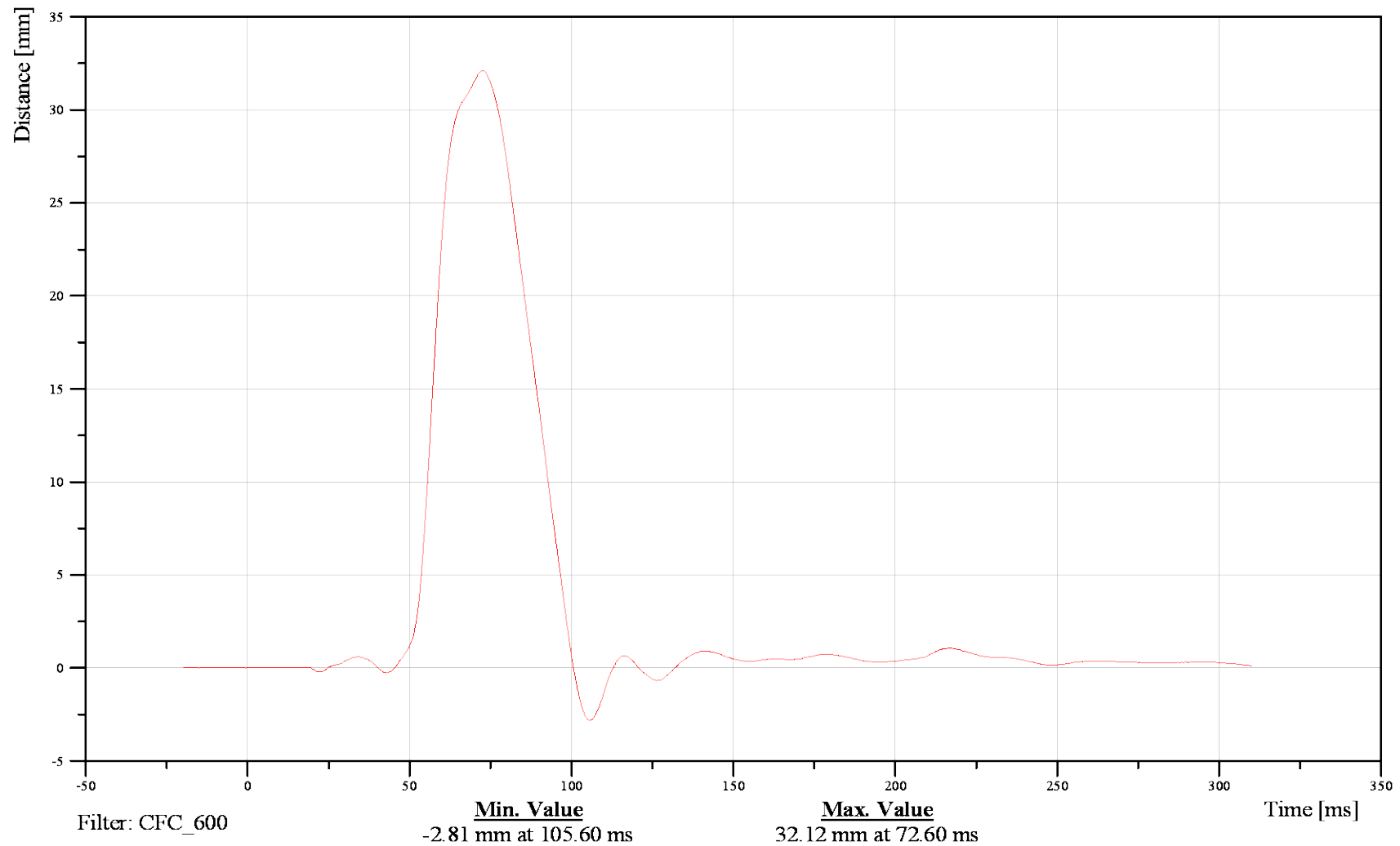
Time: 08:43

Customer: VRTC

14SHLDLE00WFDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 Longitudinal Ax

Date: 06/17/2013

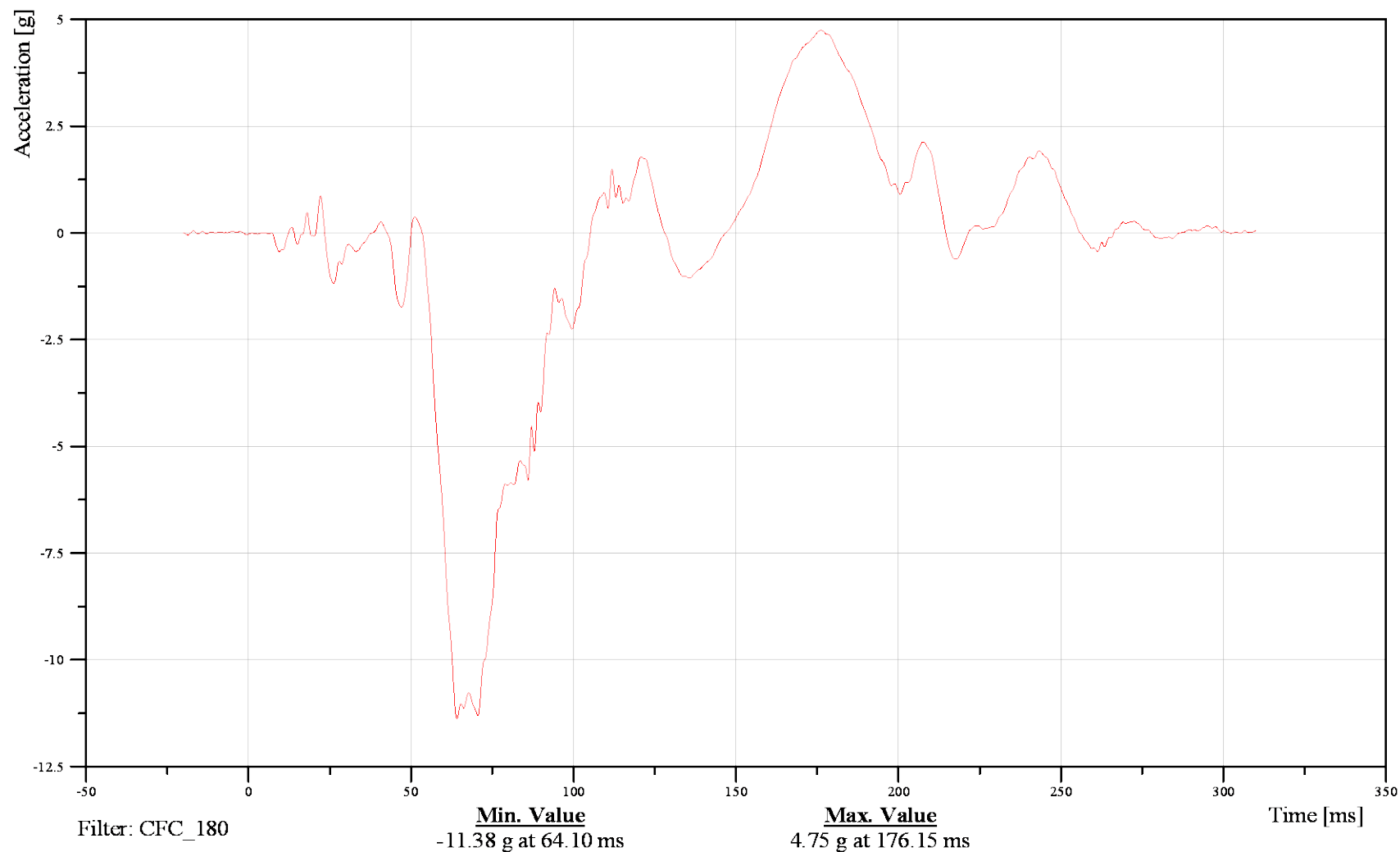
Time: 08:43

Customer: VRTC

14THSP0100WFACXC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 Lateral Ay

Date: 06/17/2013

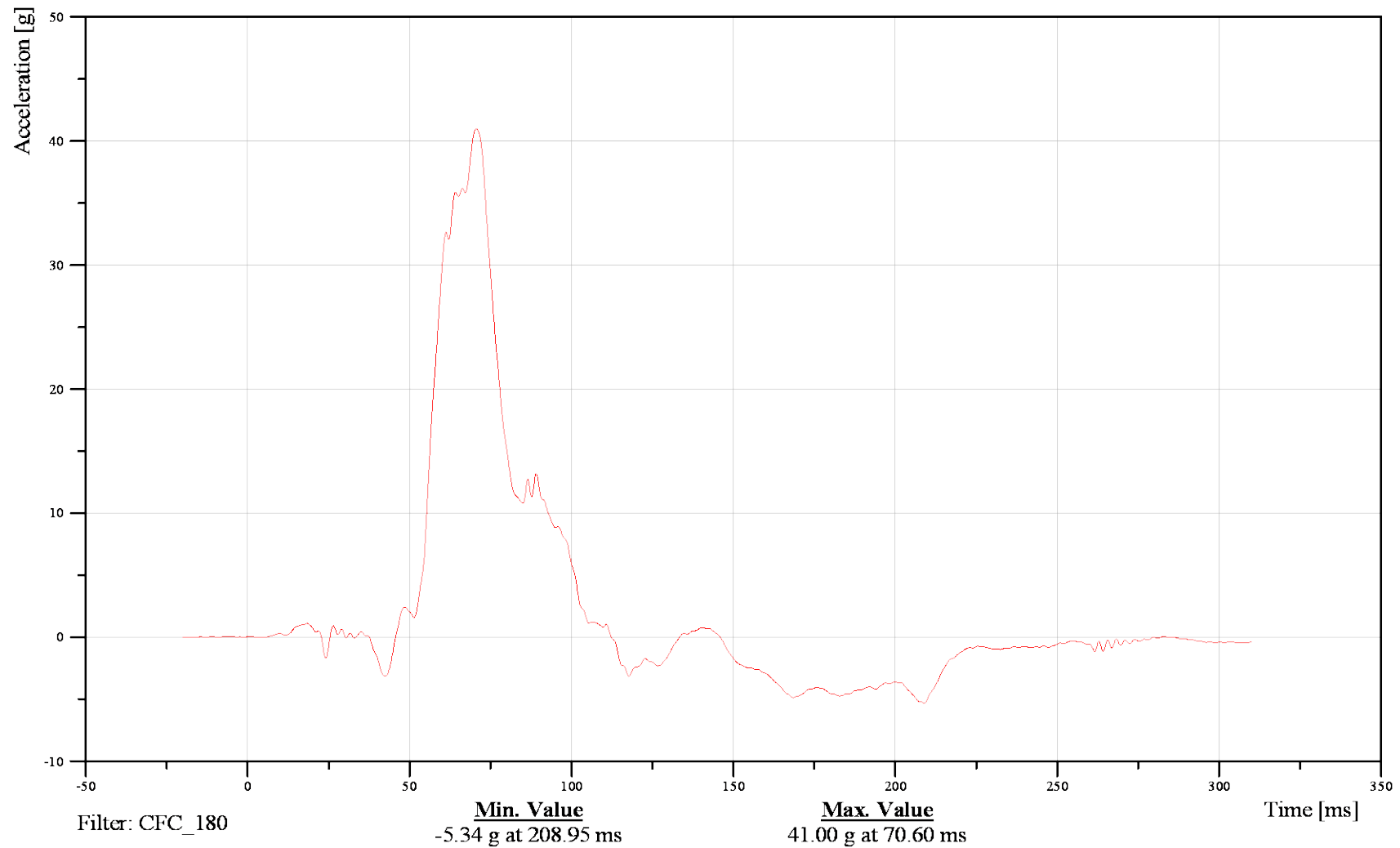
Time: 08:43

Customer: VRTC

14THSP0100WFACYC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 Vertical Az

Date: 06/17/2013

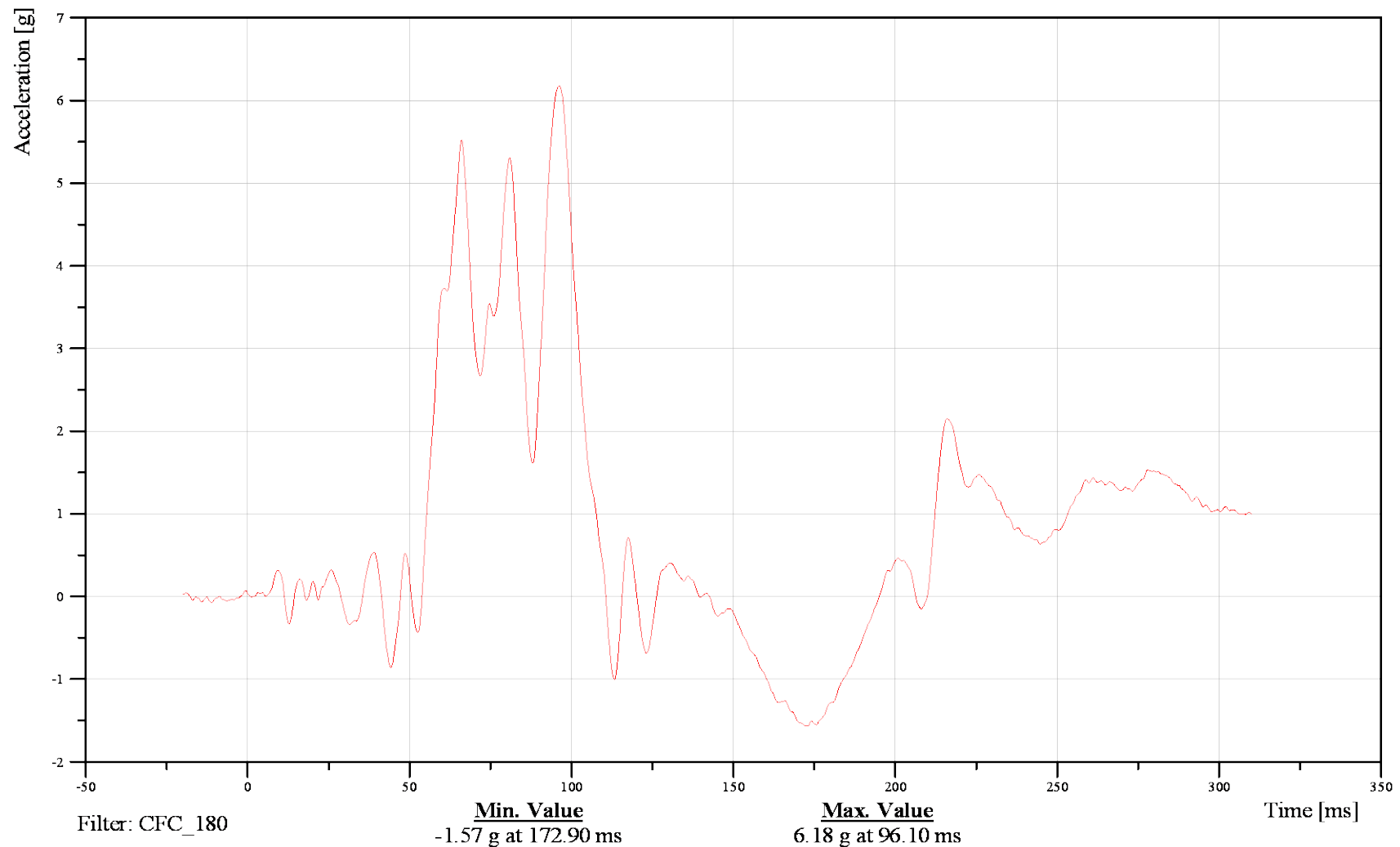
Time: 08:43

Customer: VRTC

14THSP0100WFACZC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T1 A Resultant

Date: 06/17/2013

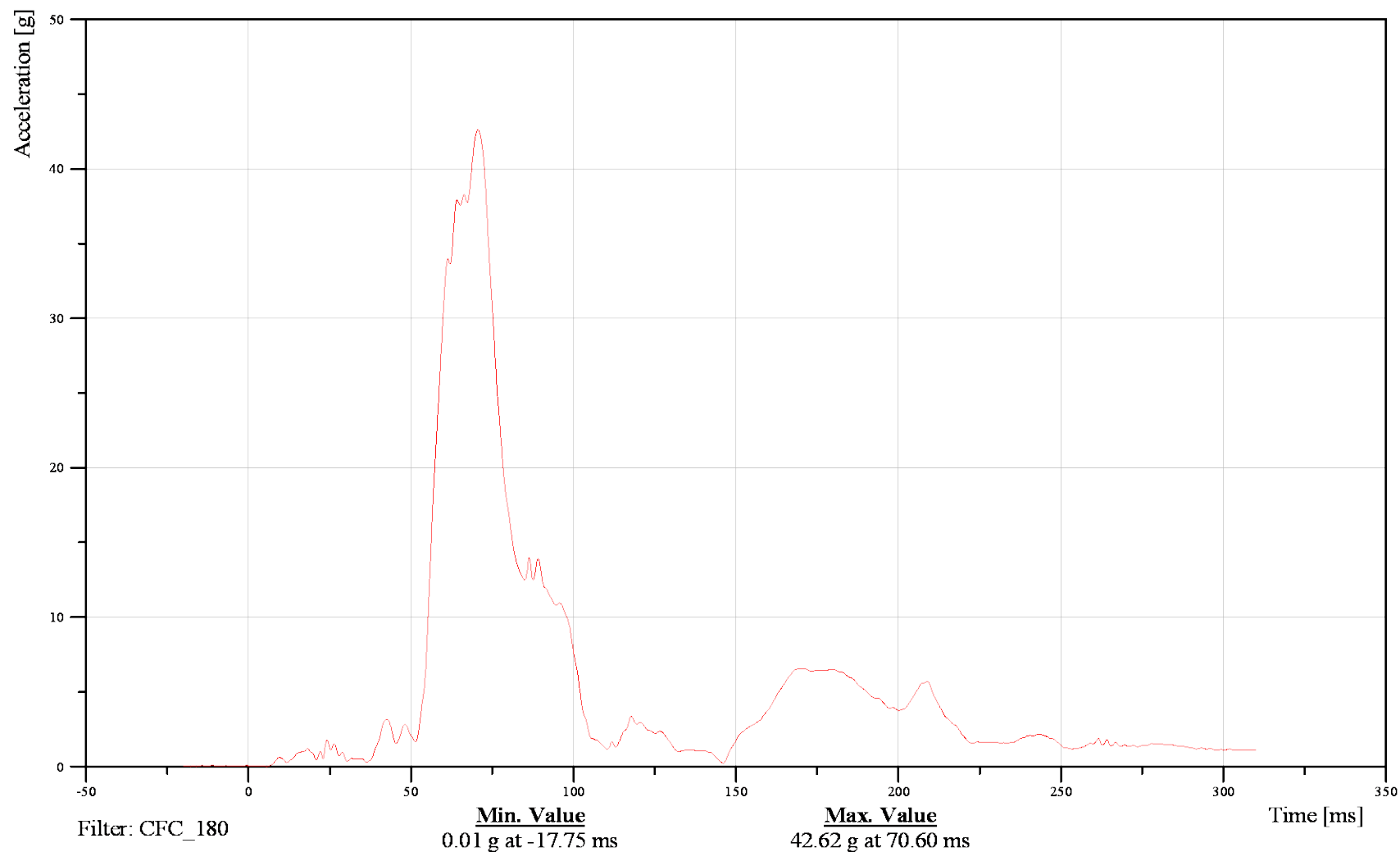
Time: 08:43

Customer: VRTC

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TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Longitudinal Ax

Date: 06/17/2013

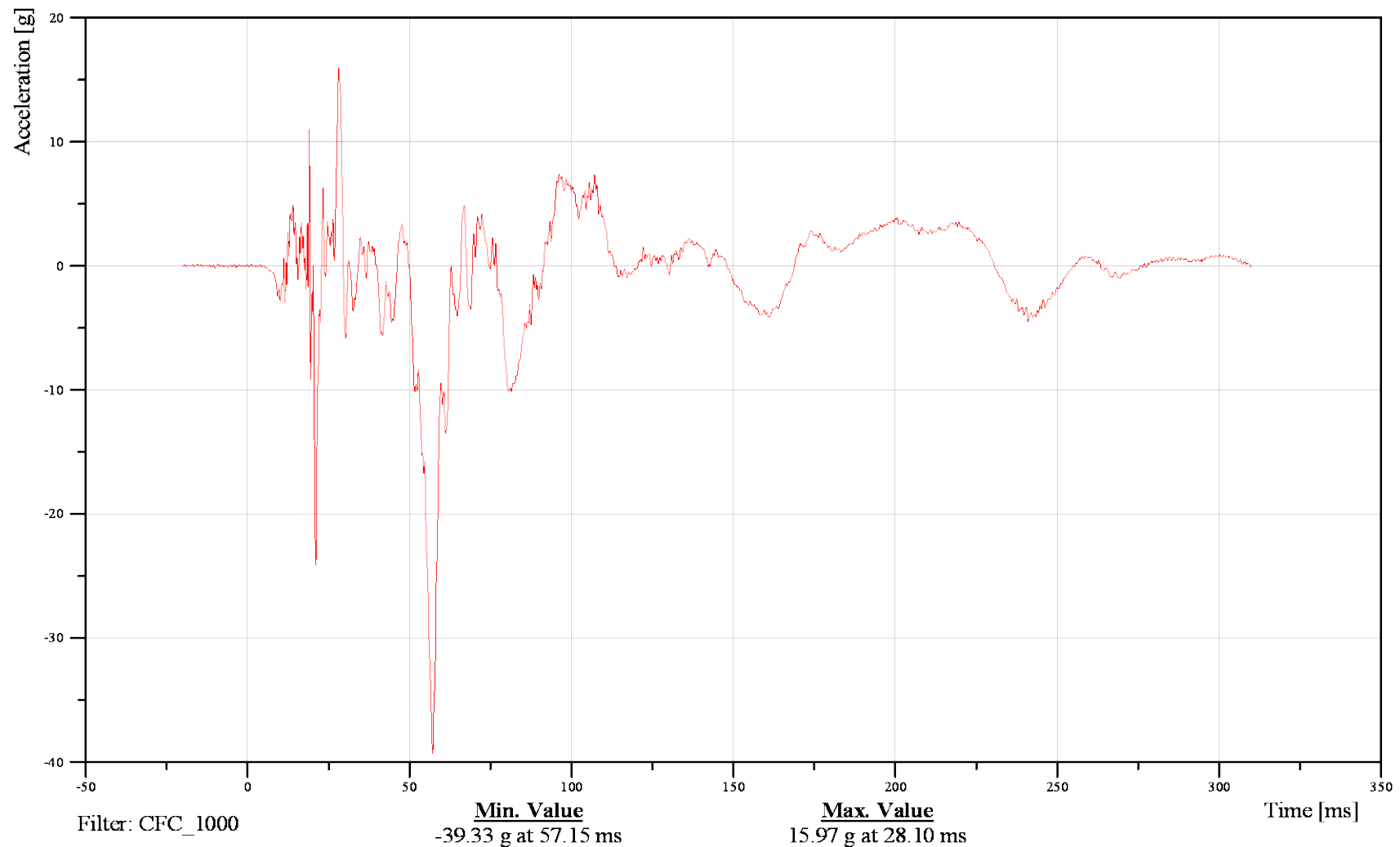
Time: 08:43

Customer: VRTC

14TRRILE01WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Lateral Ay

Date: 06/17/2013

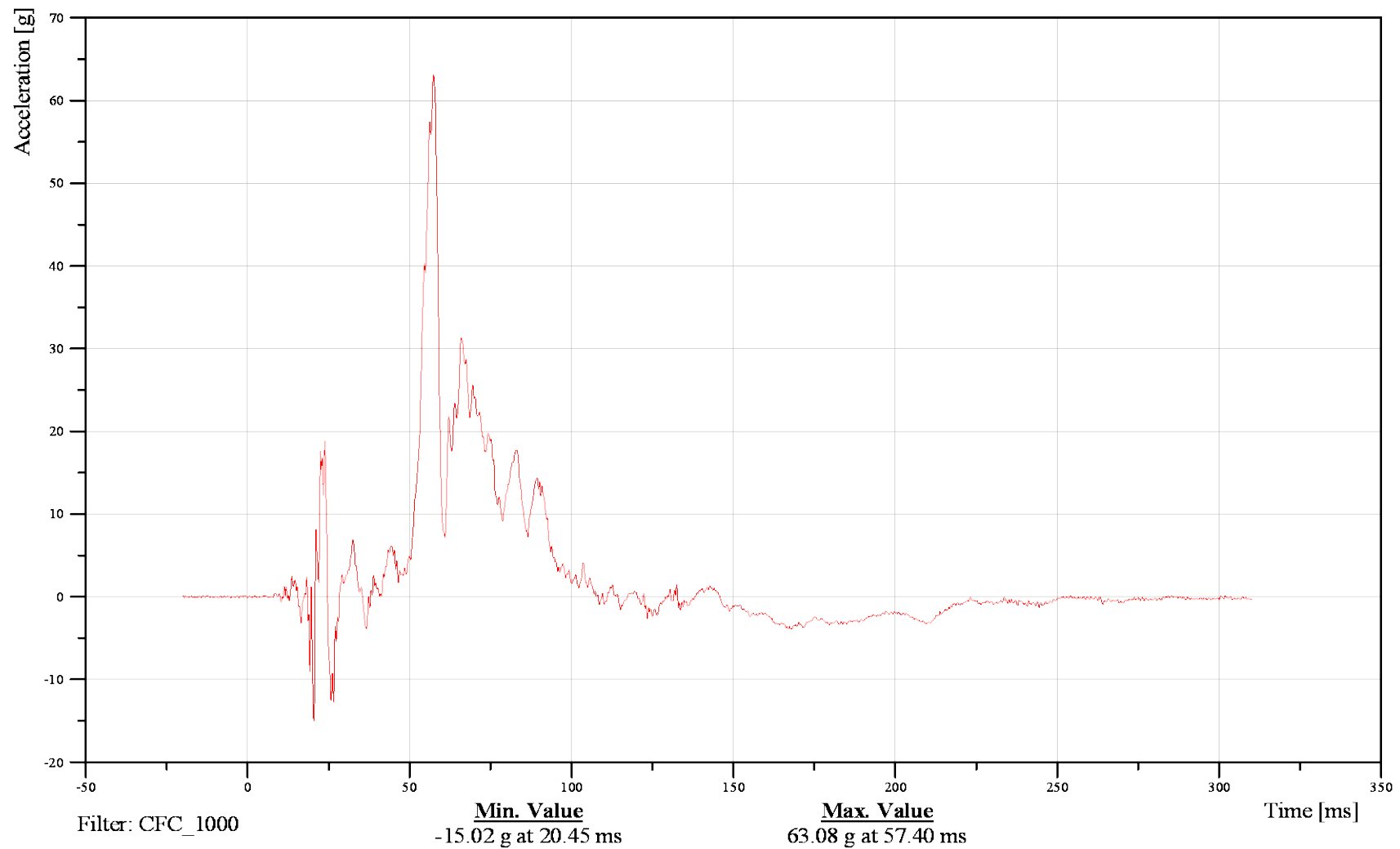
Time: 08:43

Customer: VRTC

14TRRILE01WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Vertical Az

Date: 06/17/2013

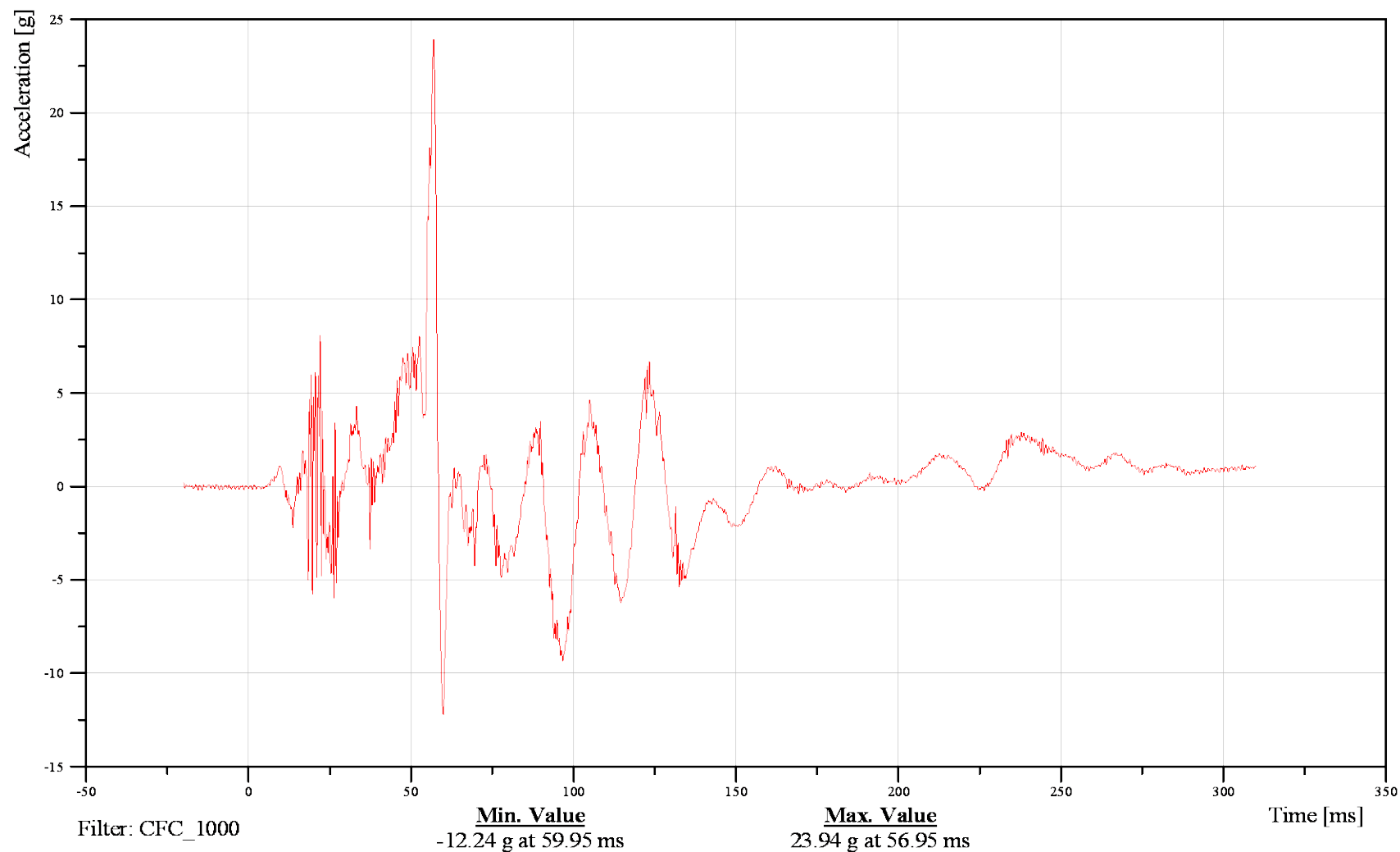
Time: 08:43

Customer: VRTC

14TRRILE01WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 A Resultant

Date: 06/17/2013

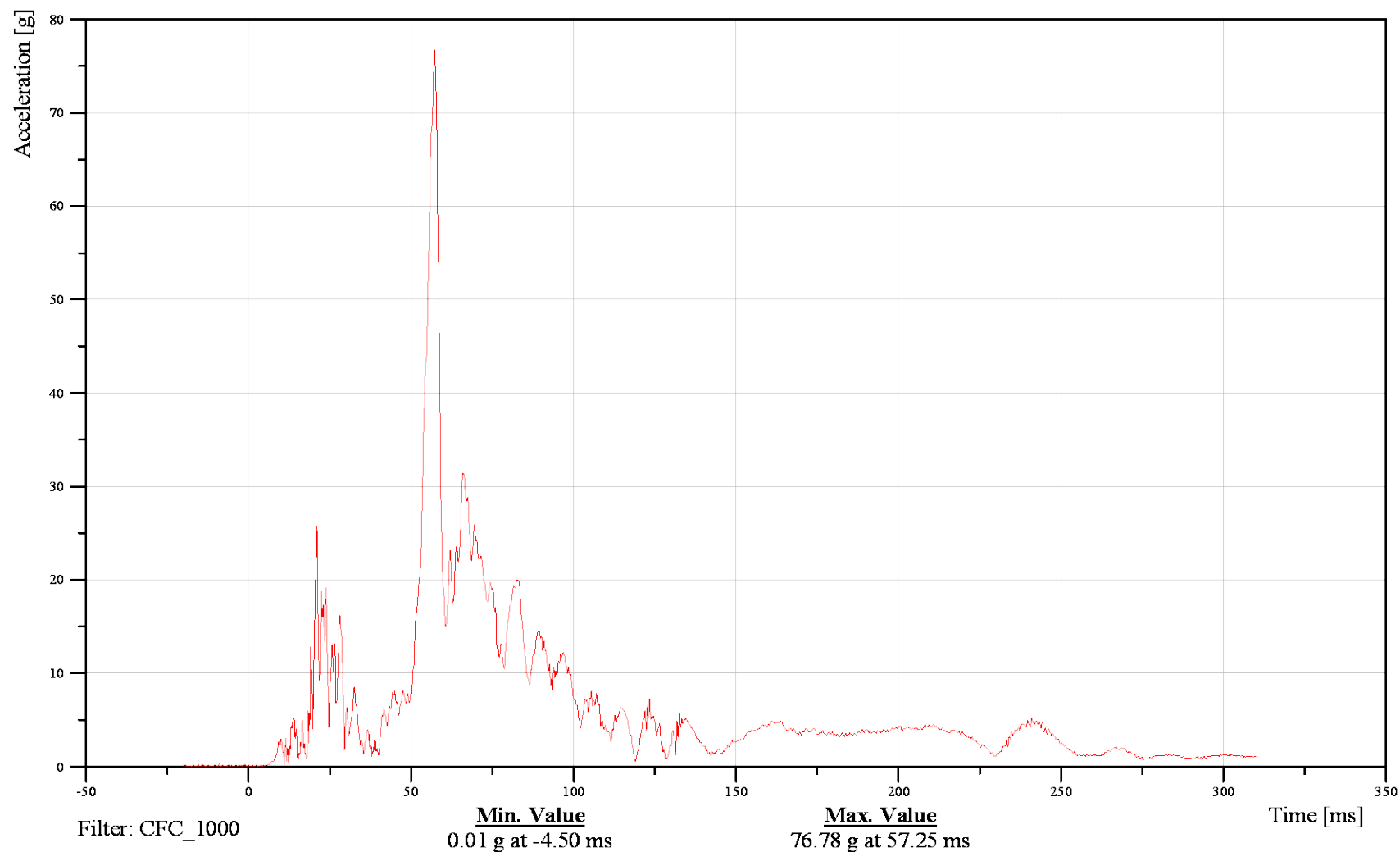
Time: 08:43

Customer: VRTC

14TRRILE01WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

THX RIB 1 IRTRAC Compression

Date: 06/17/2013

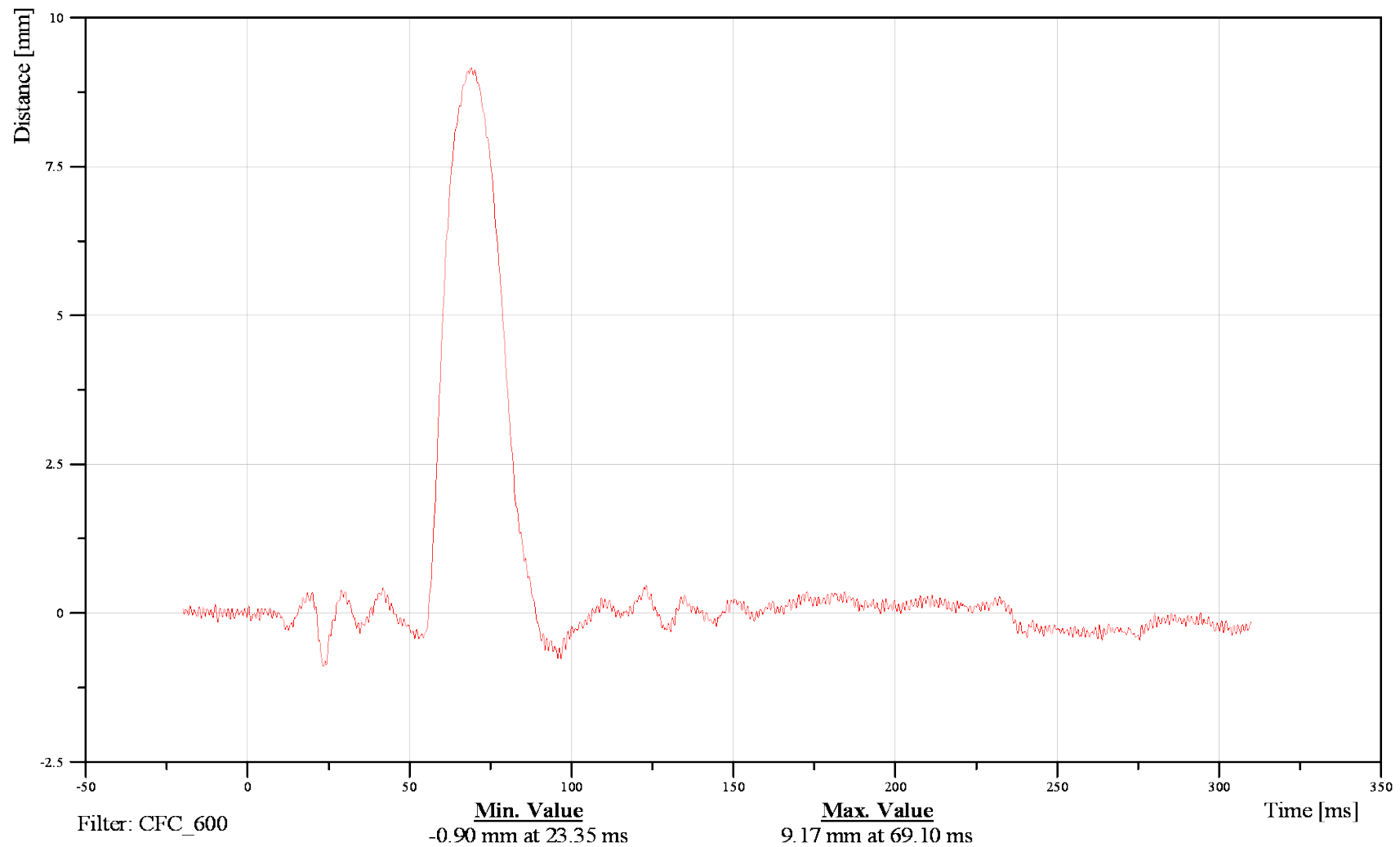
Time: 08:43

Customer: VRTC

14TRRILE01WFDC0B

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 Rotational angle

Date: 06/17/2013

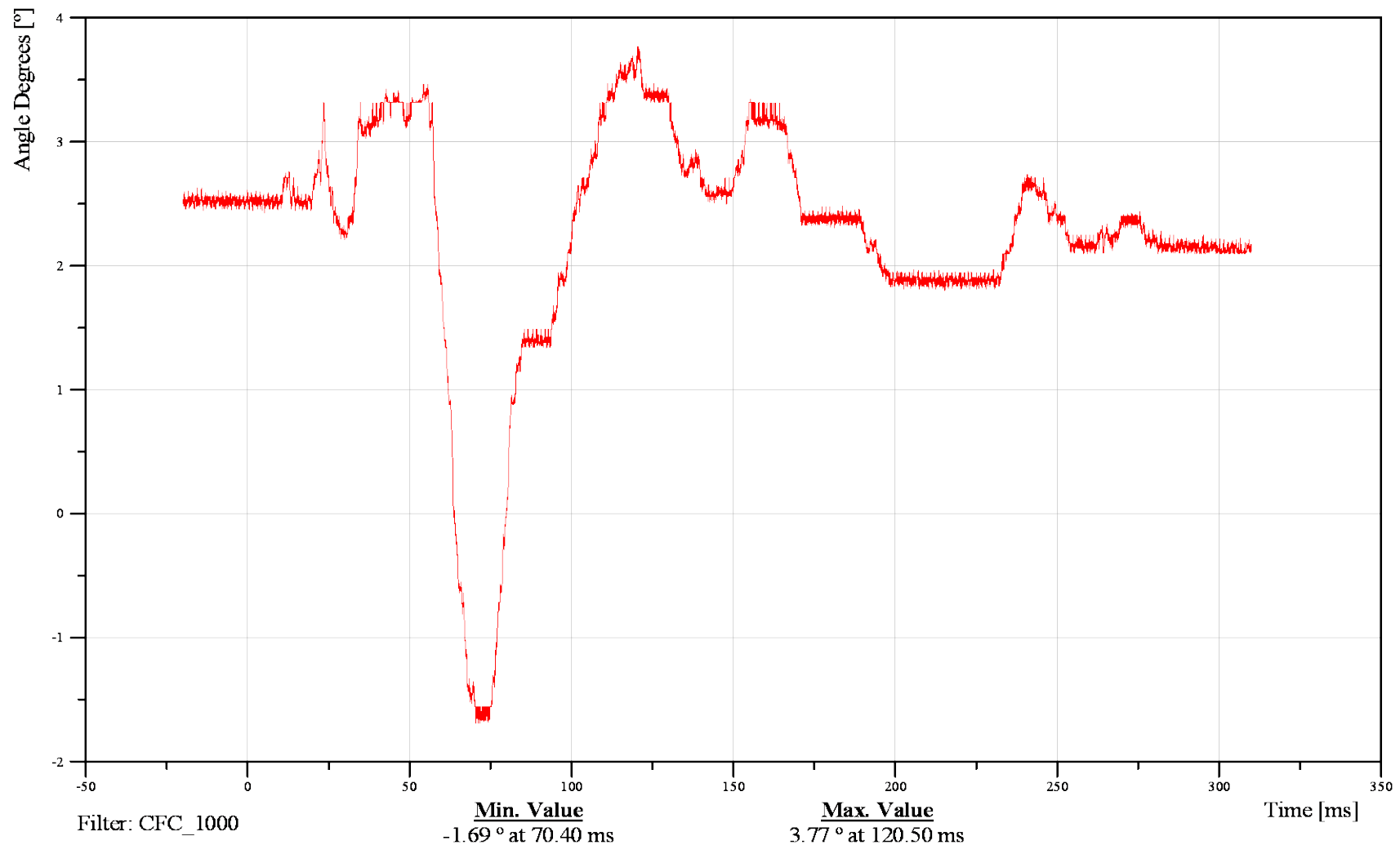
Time: 08:43

Customer: VRTC

14TRRILE01WFANZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 IRTRAC X Deflection

Date: 06/17/2013

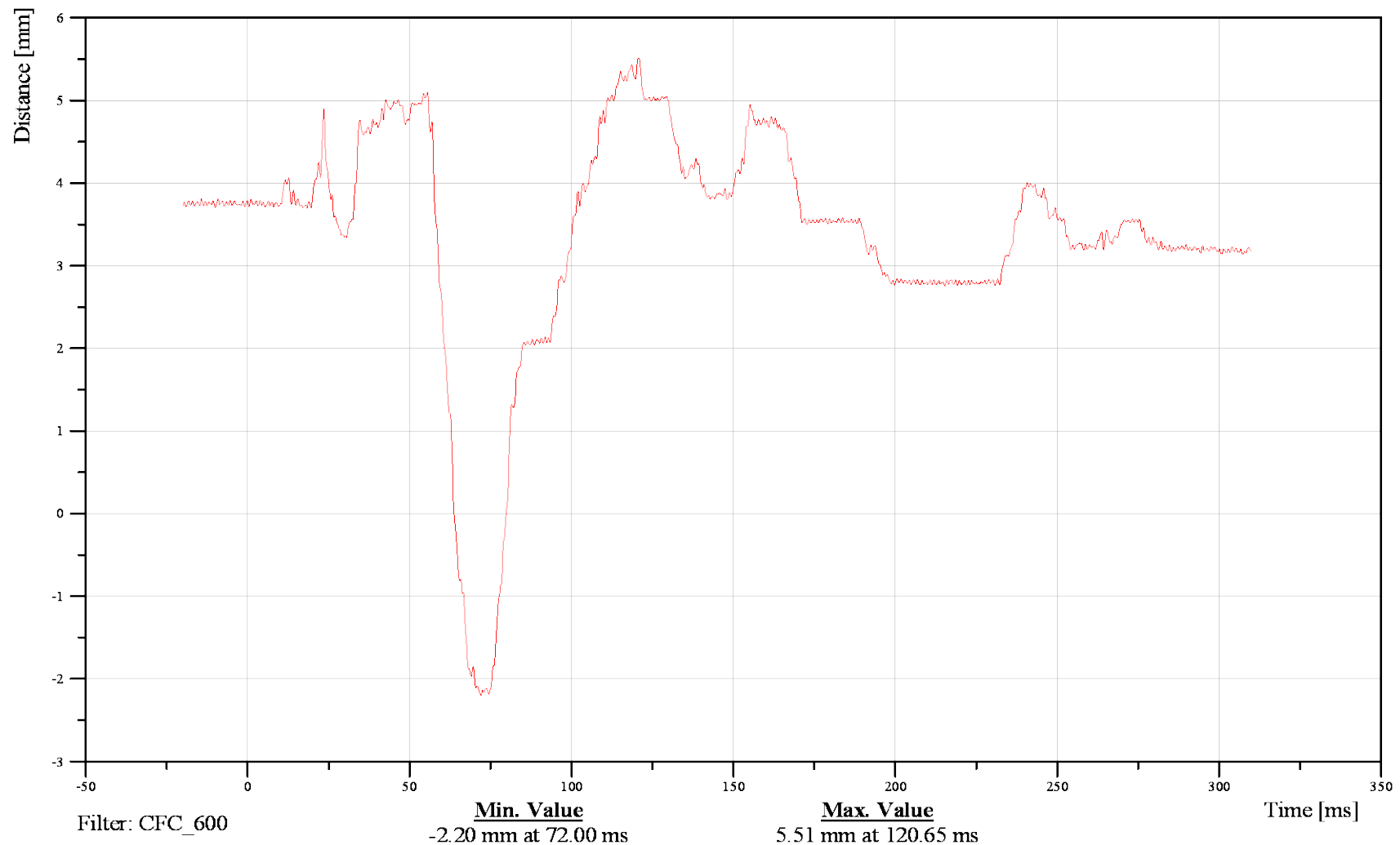
Time: 08:43

Customer: VRTC

14TRRILE01WFDSXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 1 IRTRAC Y Deflection

Date: 06/17/2013

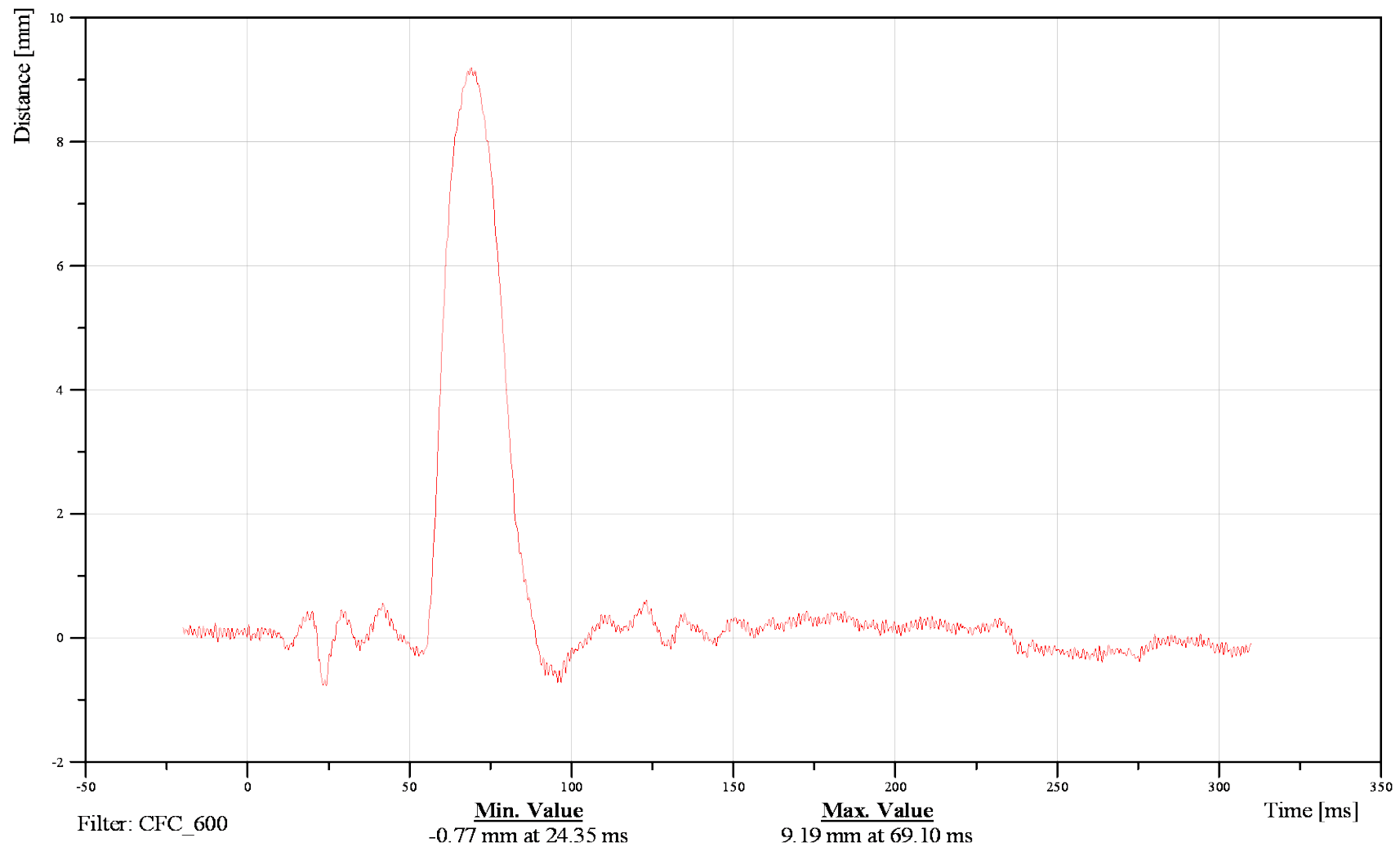
Time: 08:43

Customer: VRTC

14TRRILE01WFDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Longitudinal Ax

Date: 06/17/2013

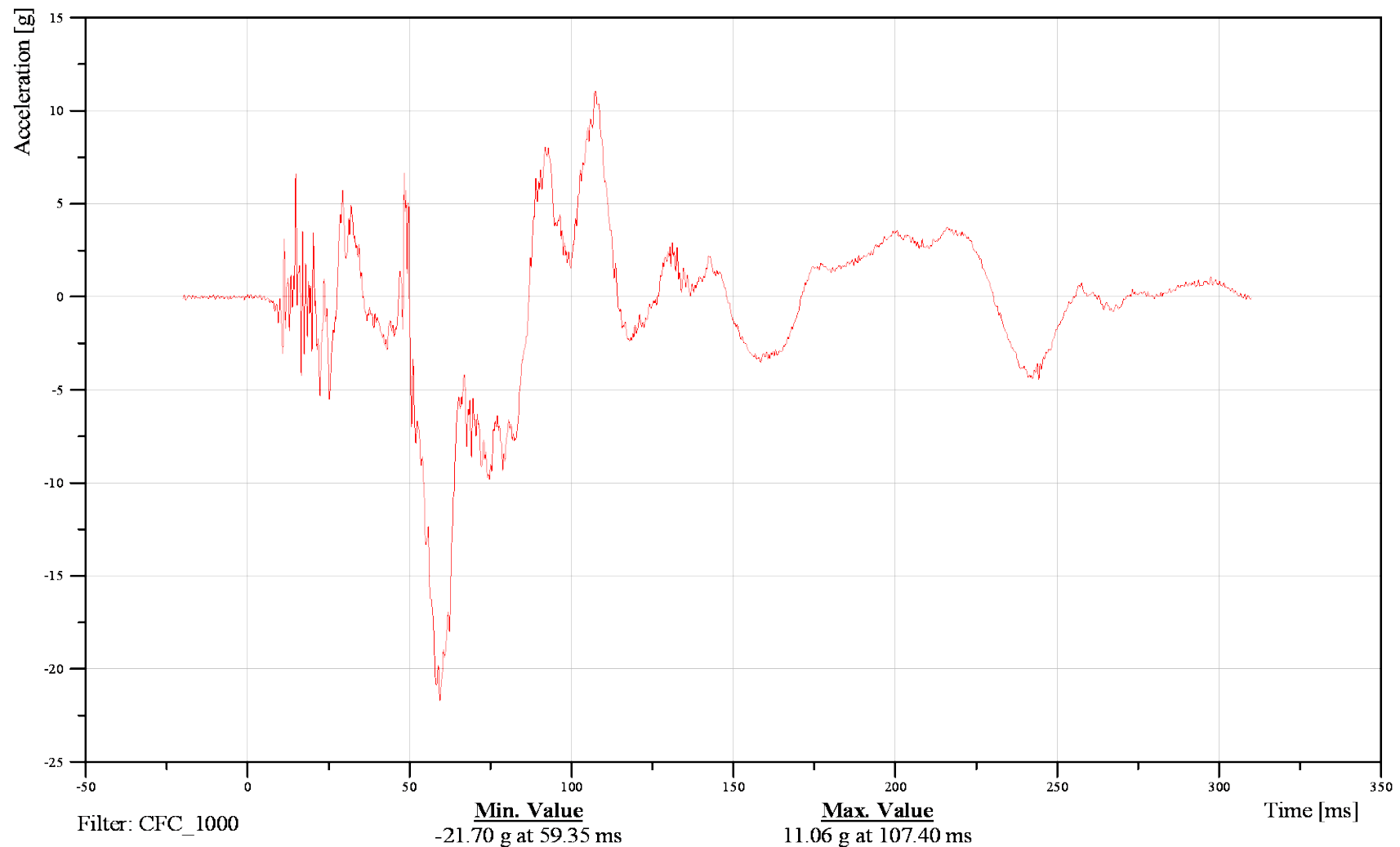
Time: 08:43

Customer: VRTC

14TRRILE02WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Lateral Ay

Date: 06/17/2013

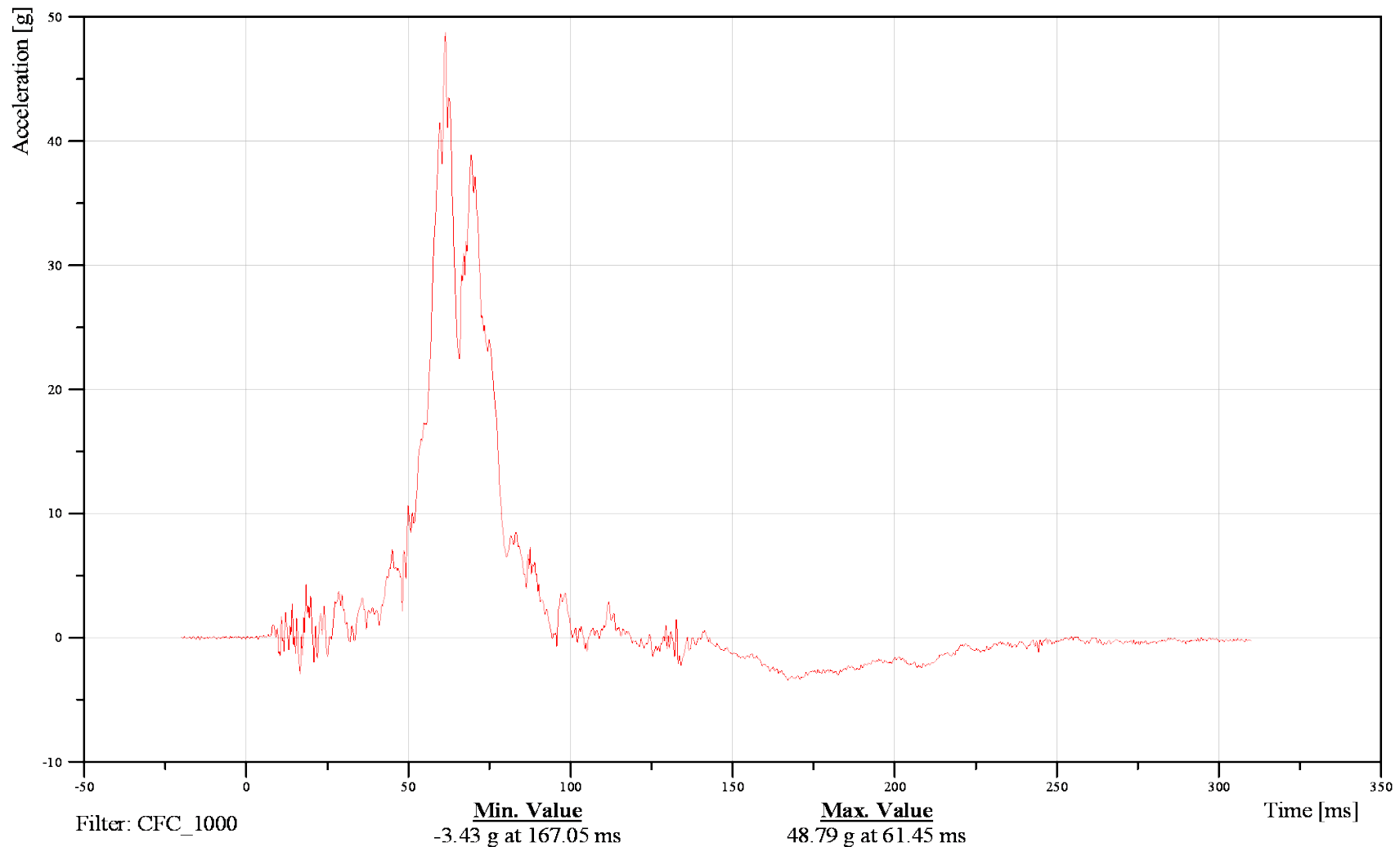
Time: 08:43

Customer: VRTC

14TRRILE02WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Vertical Az

Date: 06/17/2013

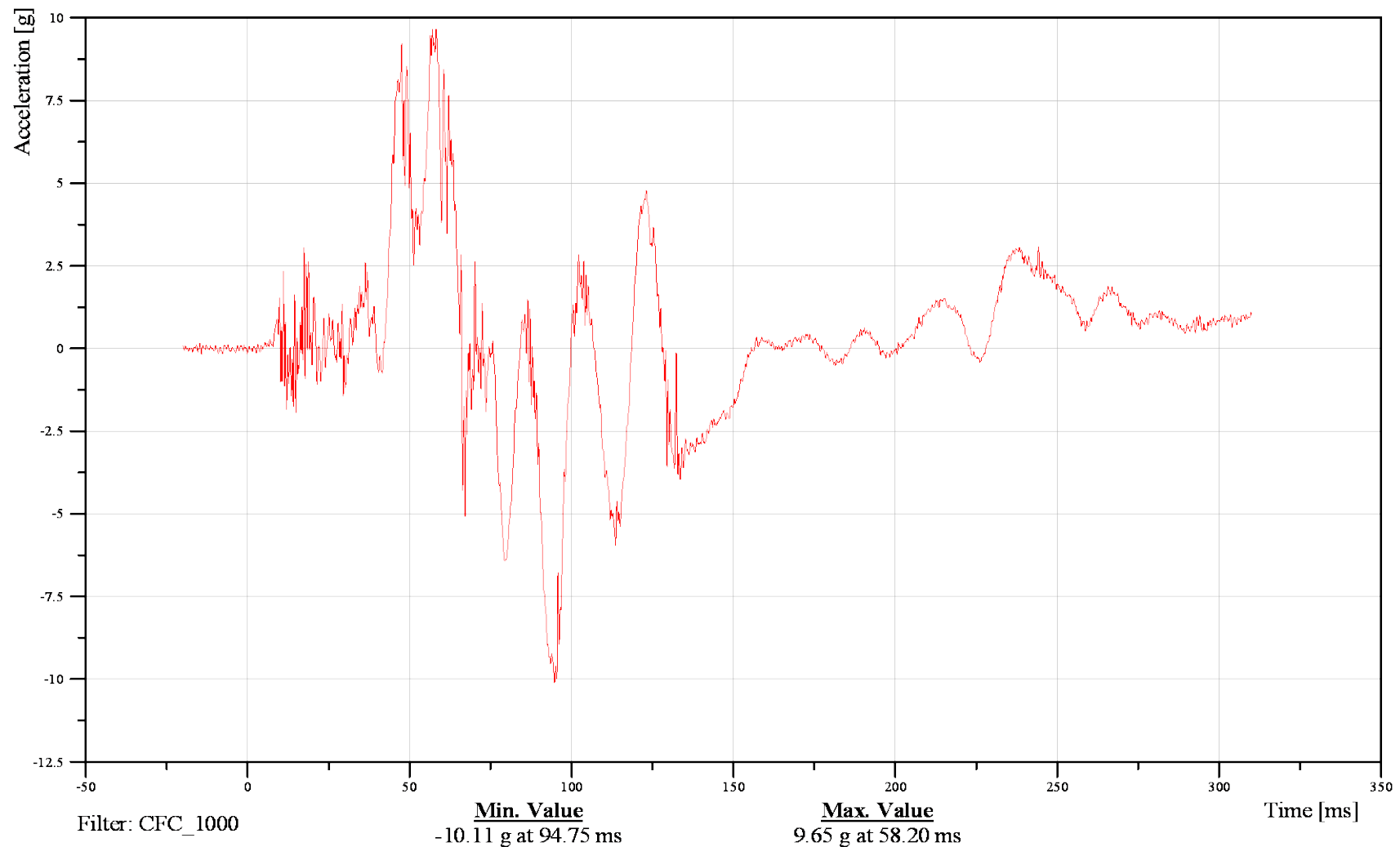
Time: 08:43

Customer: VRTC

14TRRILE02WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 A Resultant

Date: 06/17/2013

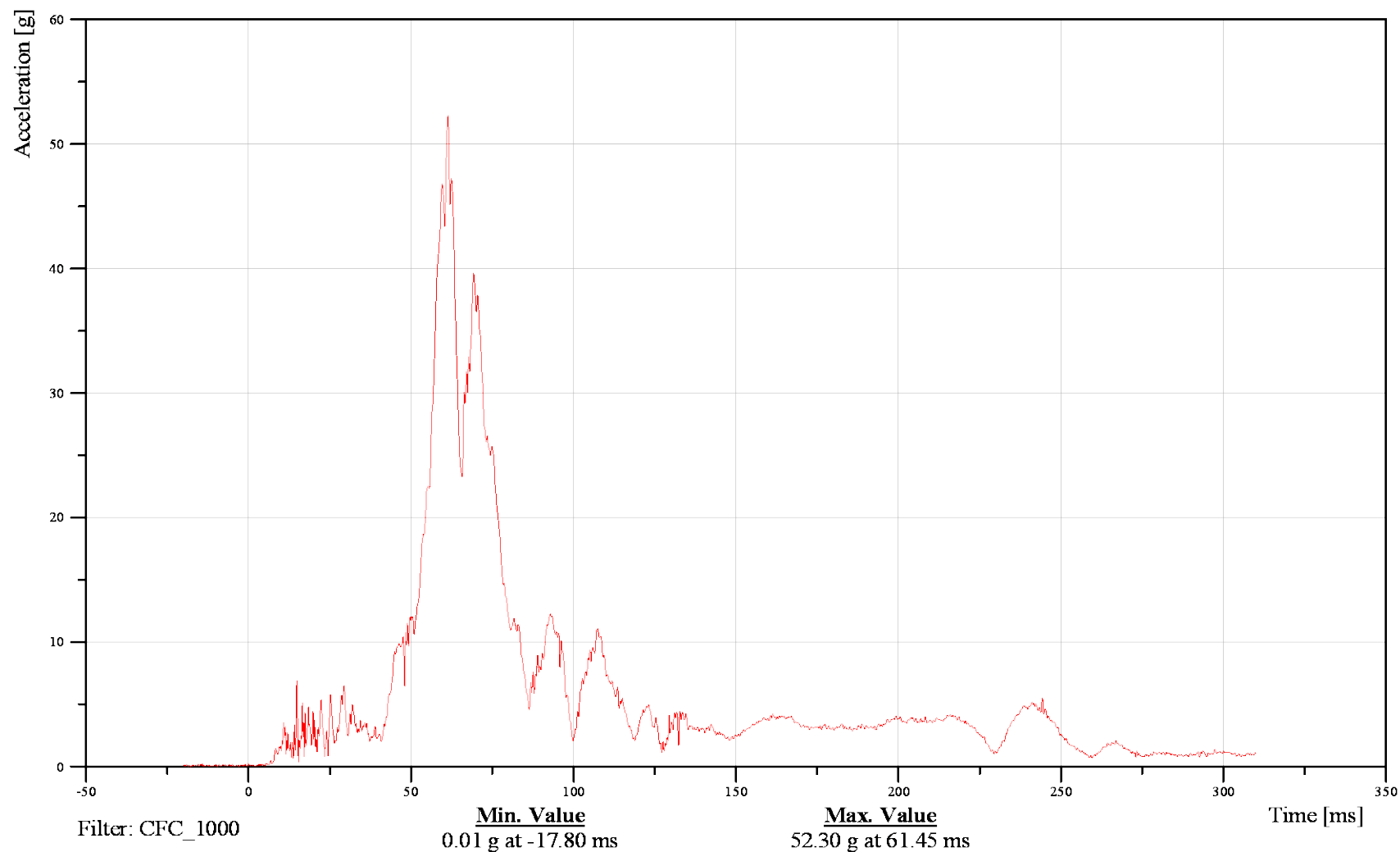
Time: 08:43

Customer: VRTC

14TRRILE02WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

THX RIB 2 IRTRAC Compression

Date: 06/17/2013

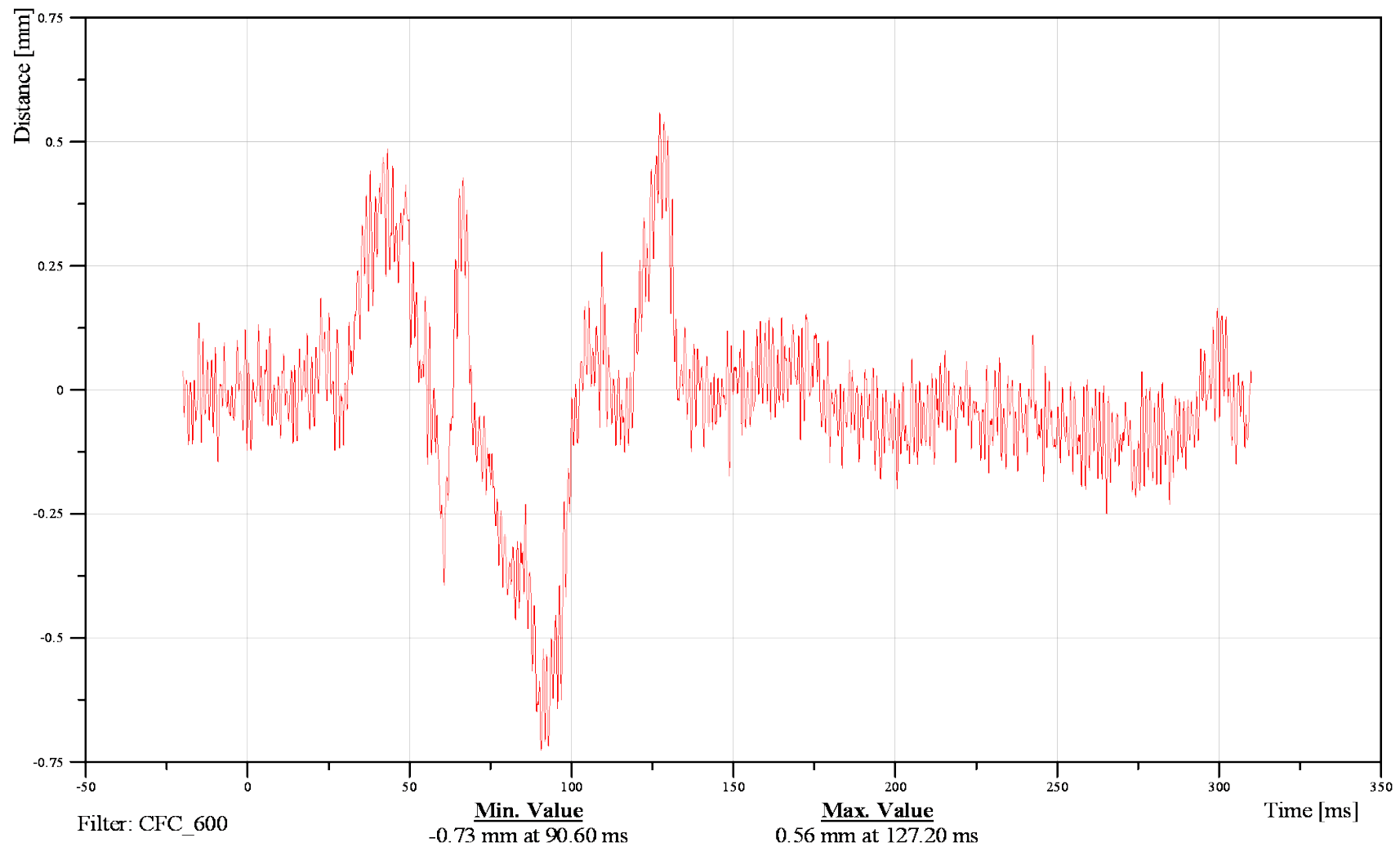
Time: 08:43

Customer: VRTC

14TRRILE02WFDC0B

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 Rotational angle

Date: 06/17/2013

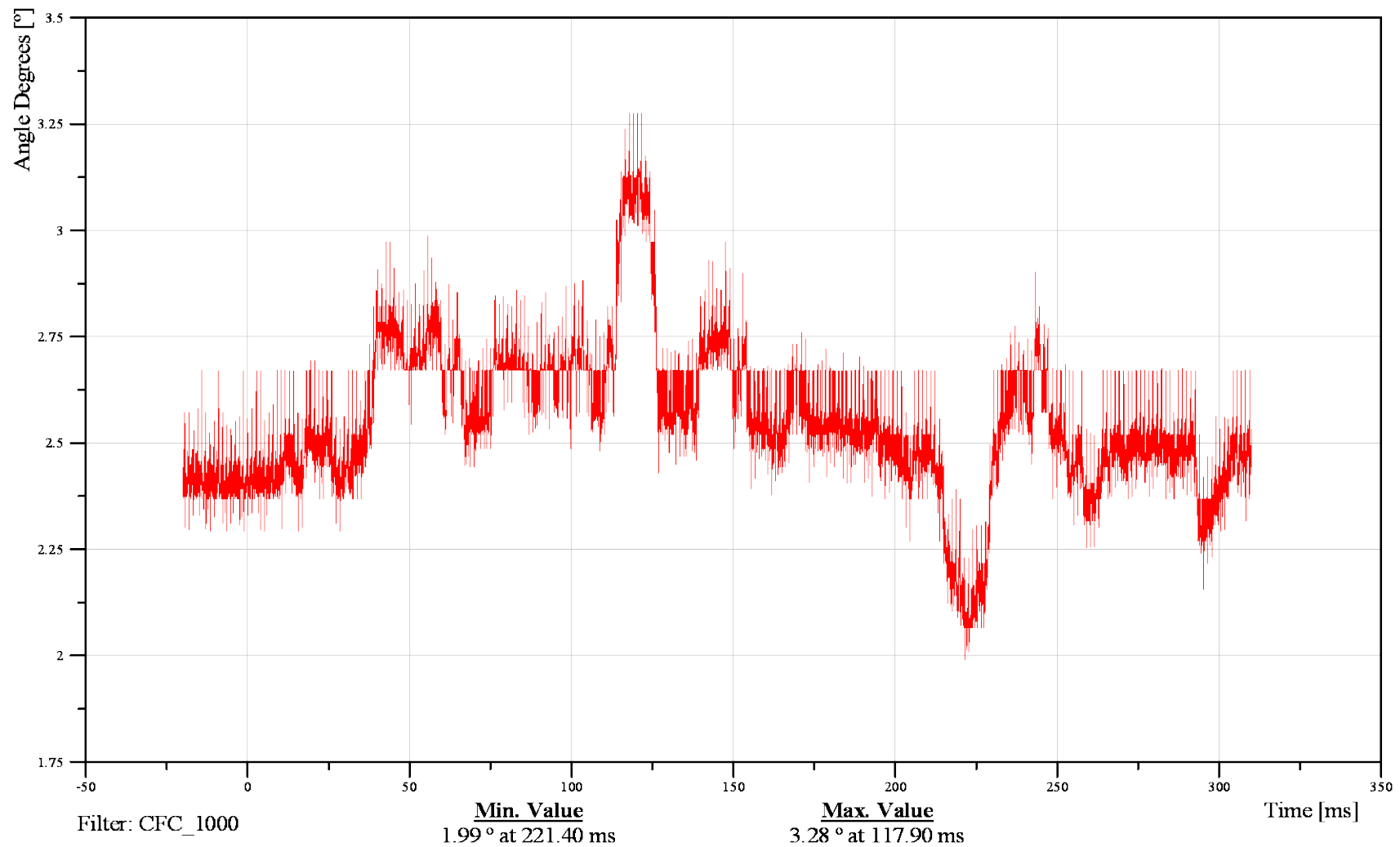
Time: 08:43

Customer: VRTC

14TRRILE02WFANZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 IRTRAC X Deflection

Date: 06/17/2013

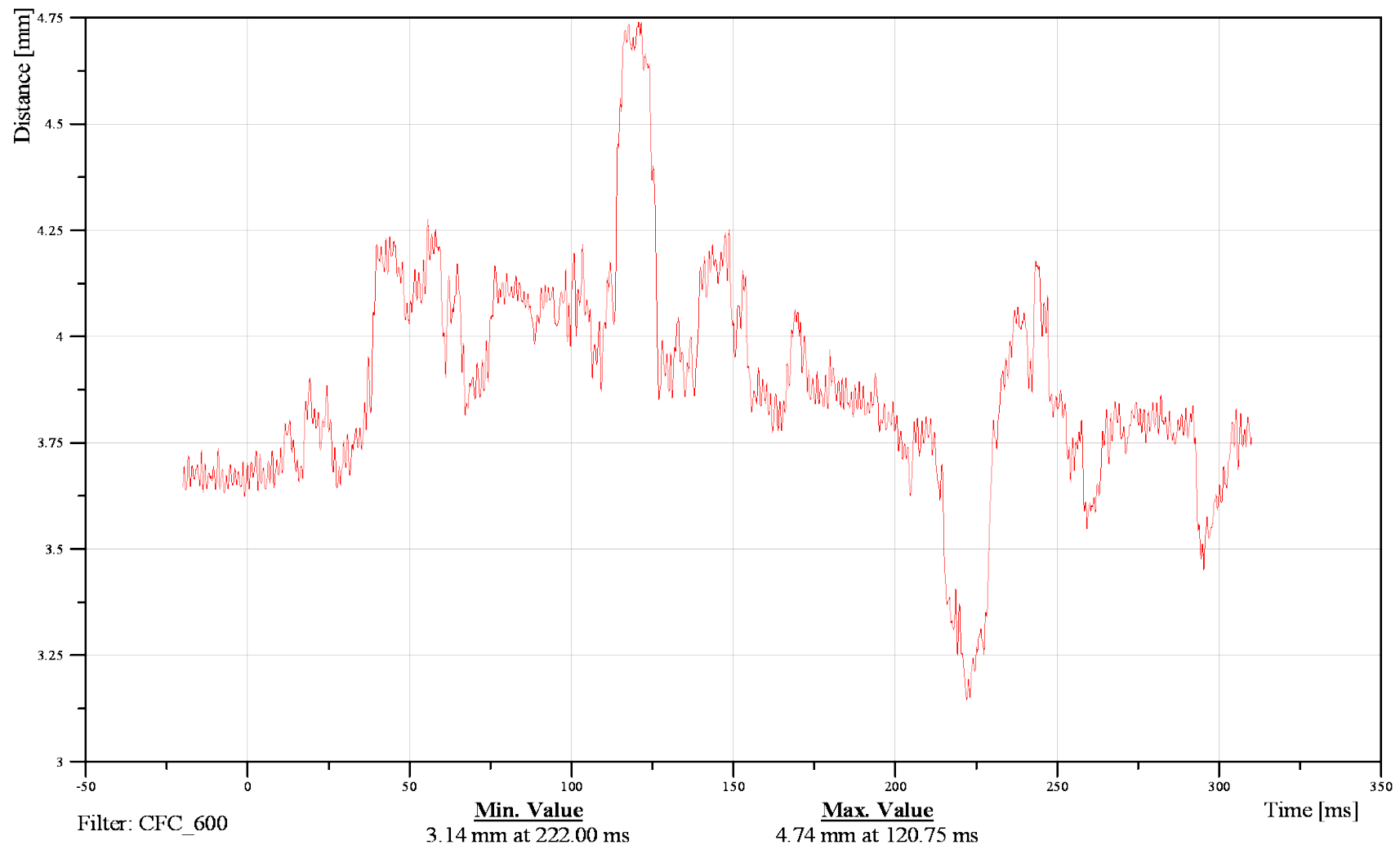
Time: 08:43

Customer: VRTC

14TRRILE02WFDSXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 2 IRTRAC Y Deflection

Date: 06/17/2013

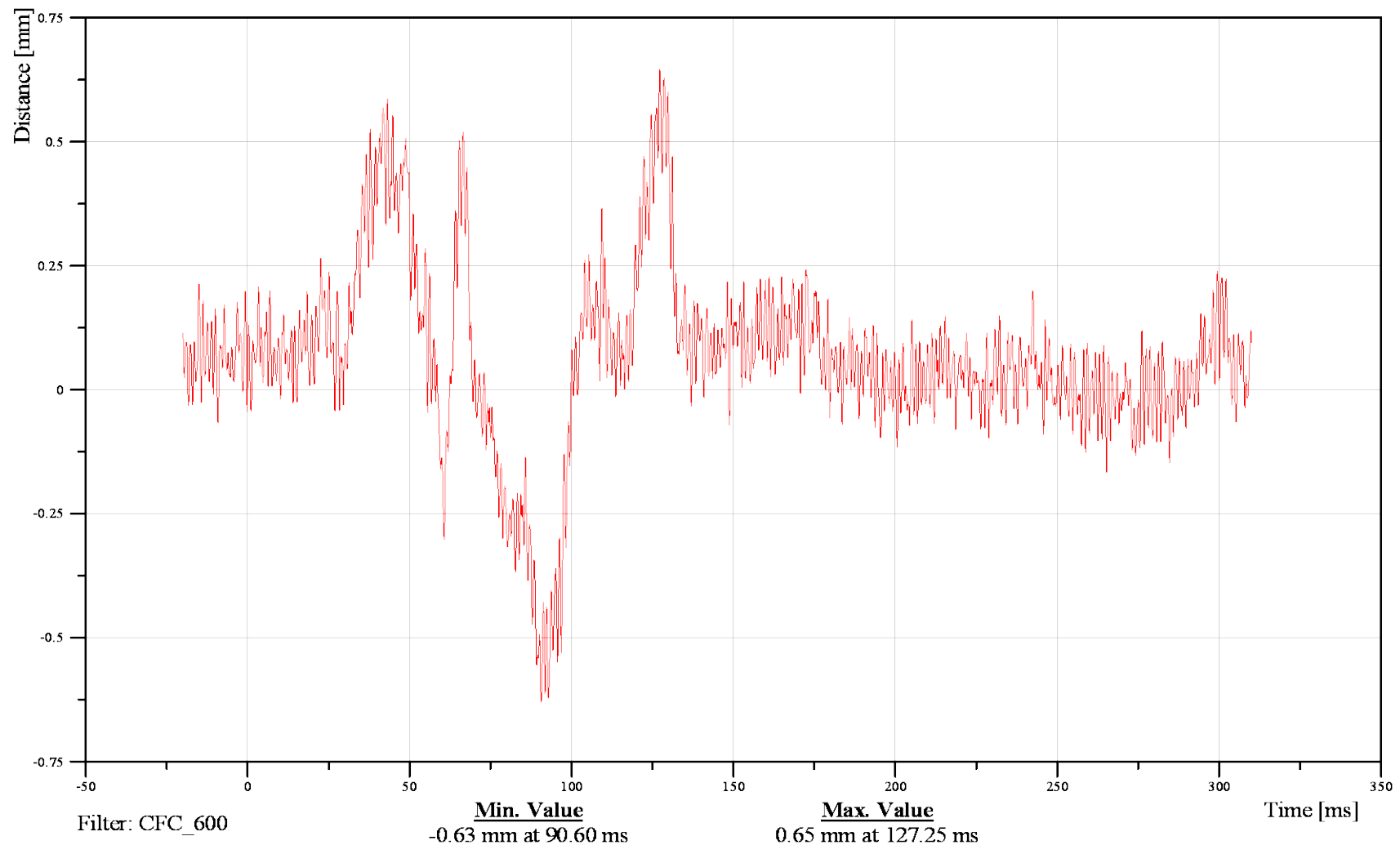
Time: 08:43

Customer: VRTC

14TRRILE02WFDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Longitudinal Ax

Date: 06/17/2013

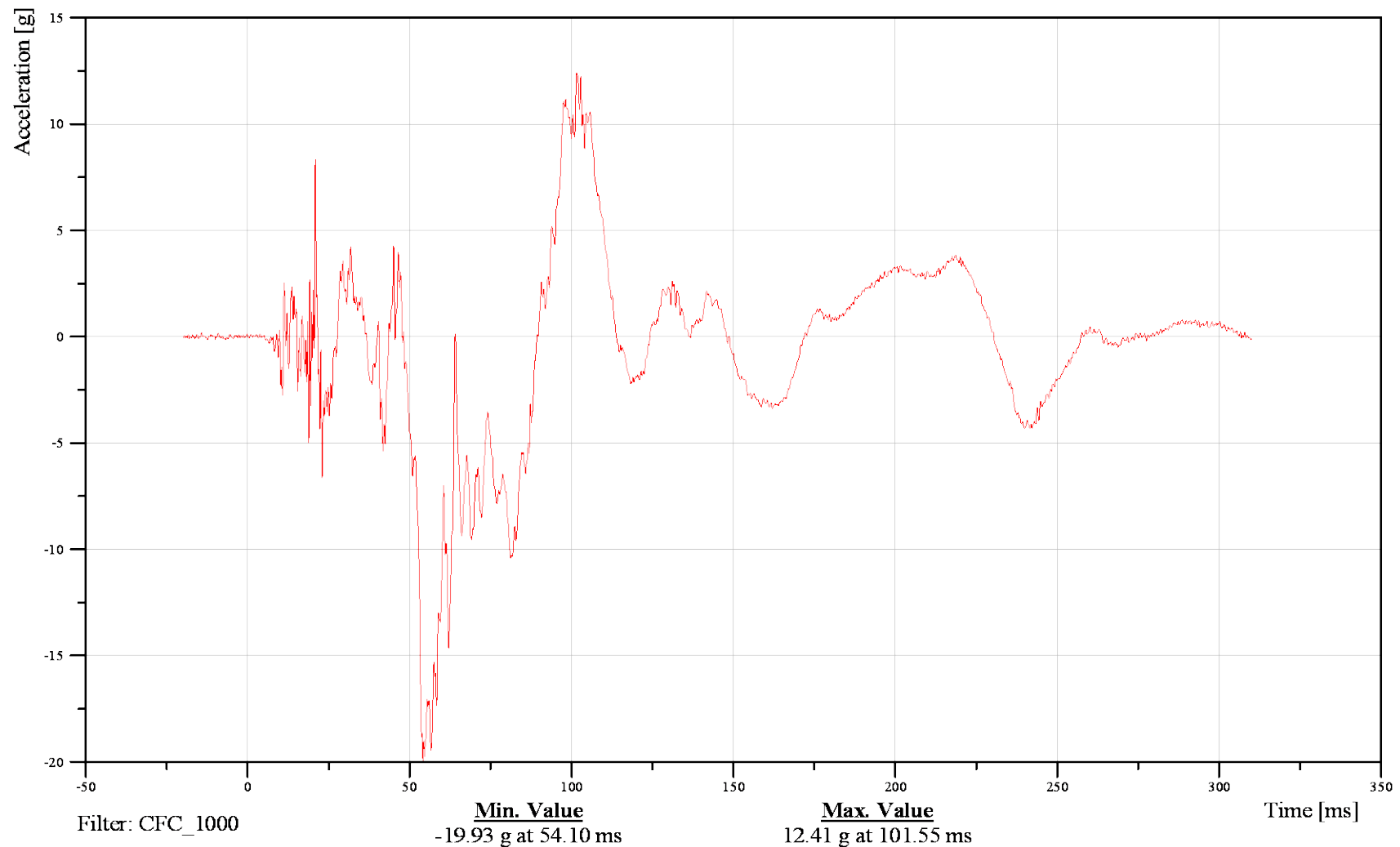
Time: 08:43

Customer: VRTC

14TRRILE03WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Lateral Ay

Date: 06/17/2013

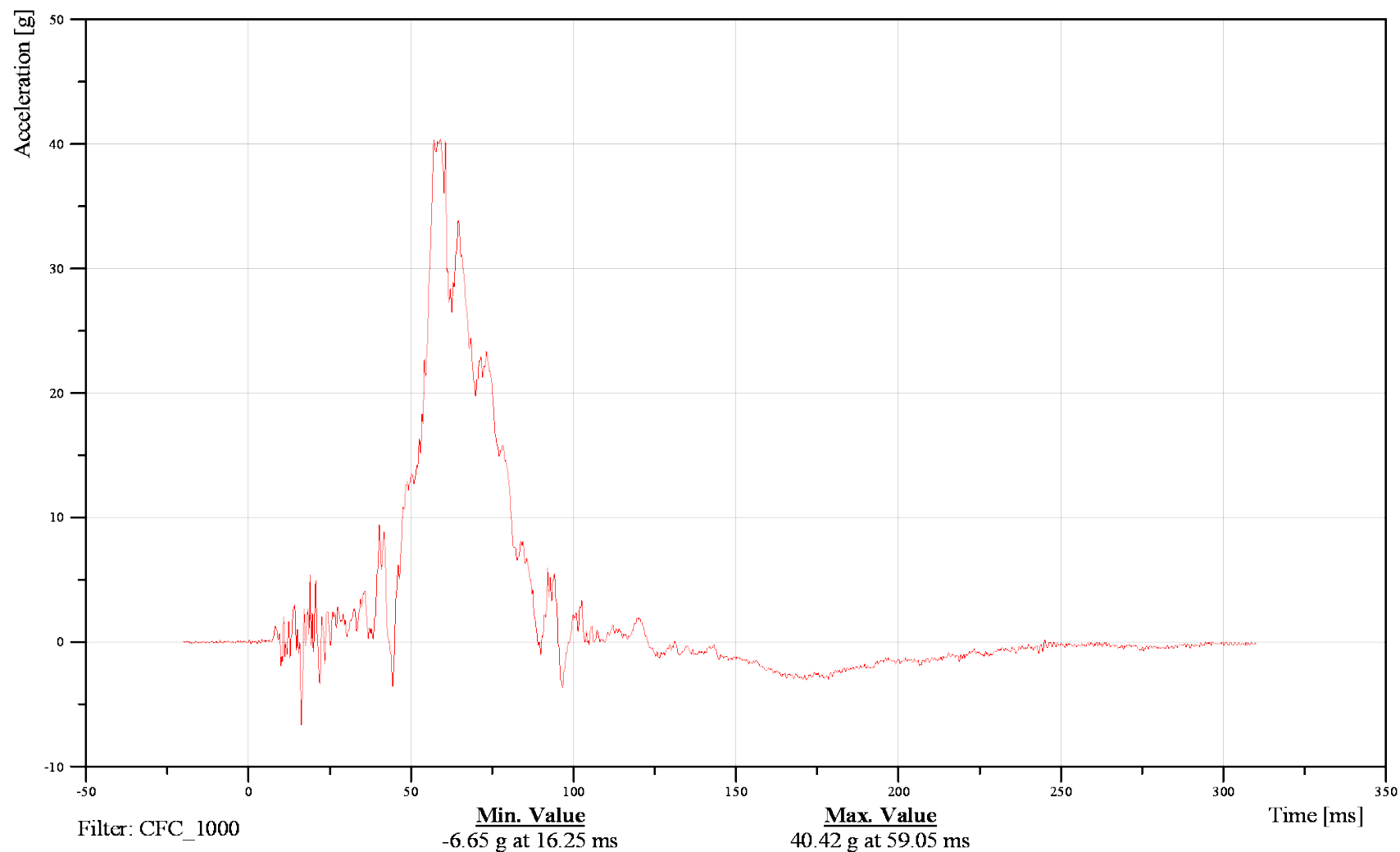
Time: 08:43

Customer: VRTC

14TRRILE03WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Vertical Az

Date: 06/17/2013

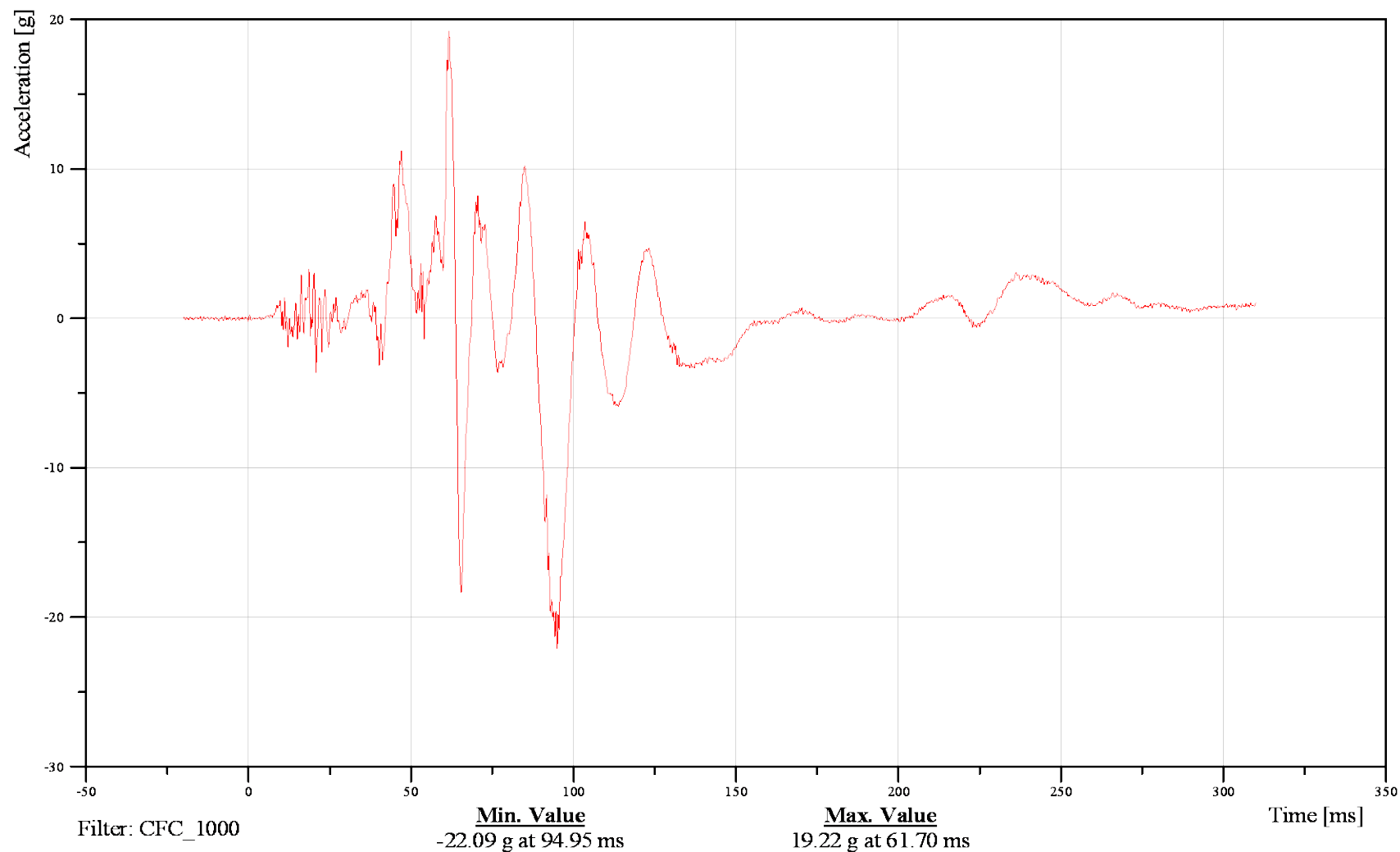
Time: 08:43

Customer: VRTC

14TRRILE03WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 A Resultant

Date: 06/17/2013

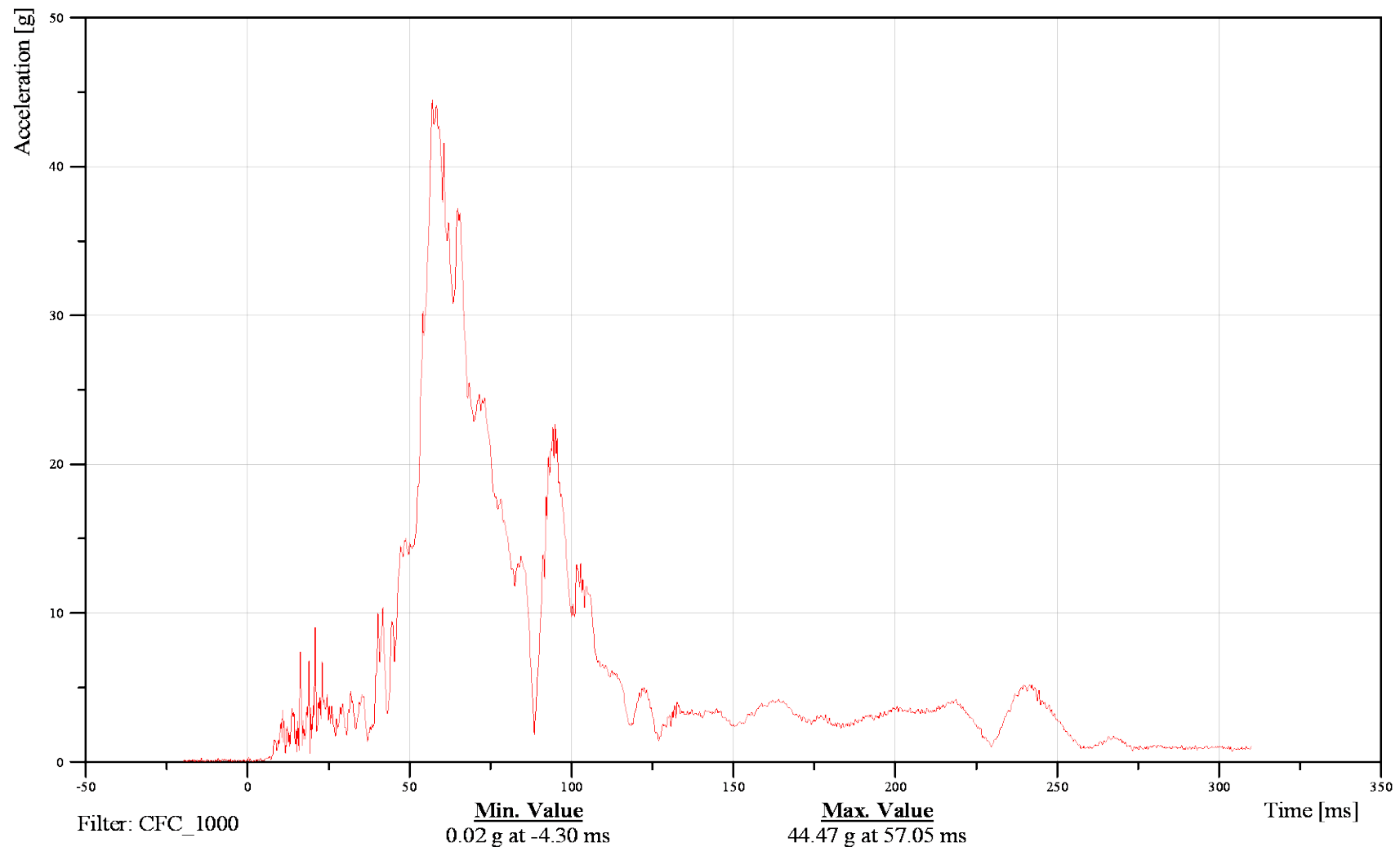
Time: 08:43

Customer: VRTC

14TRRILE03WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

THX RIB 3 IRTRAC Compression

Date: 06/17/2013

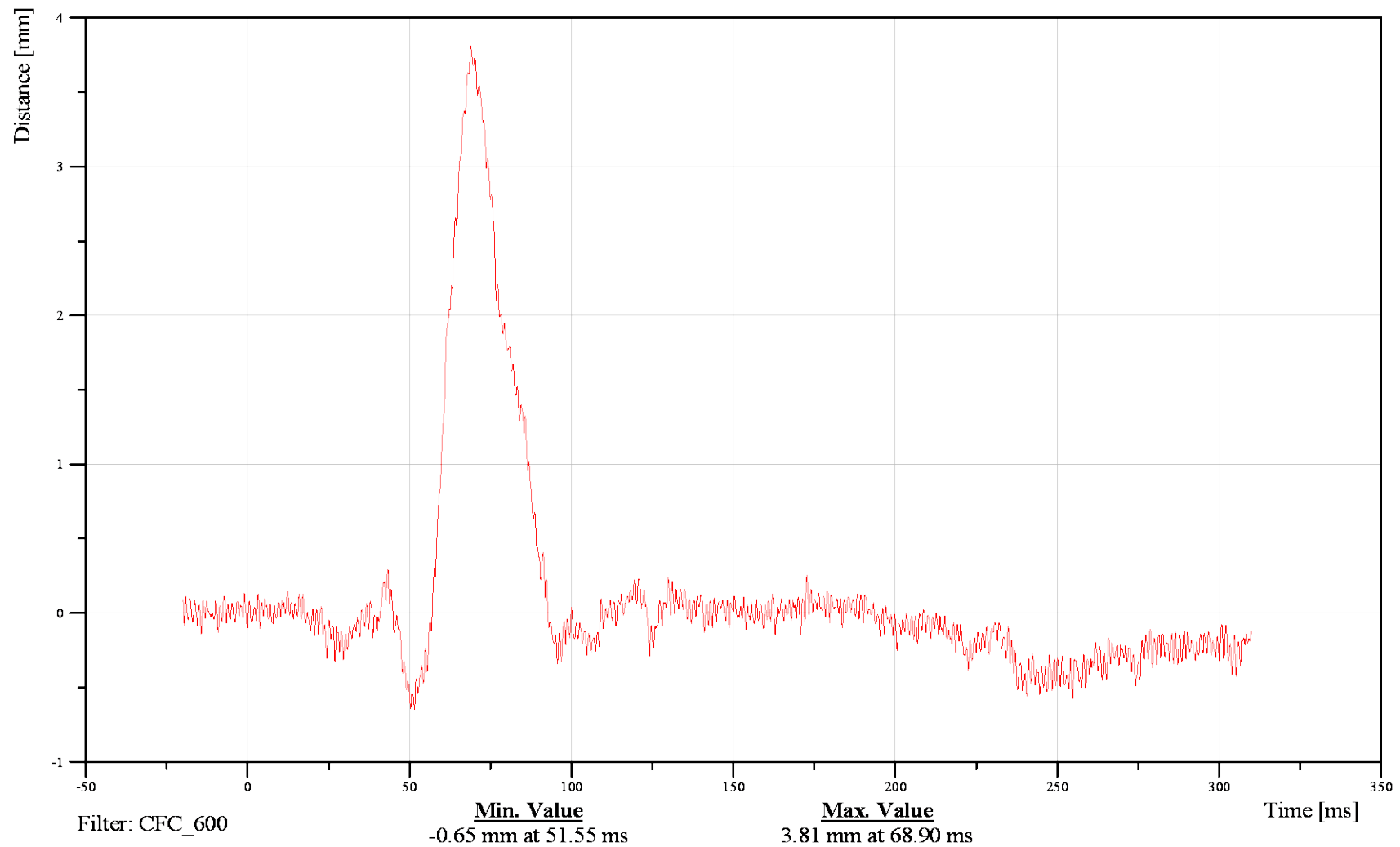
Time: 08:43

Customer: VRTC

14TRRILE03WFDC0B

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 Rotational angle

Date: 06/17/2013

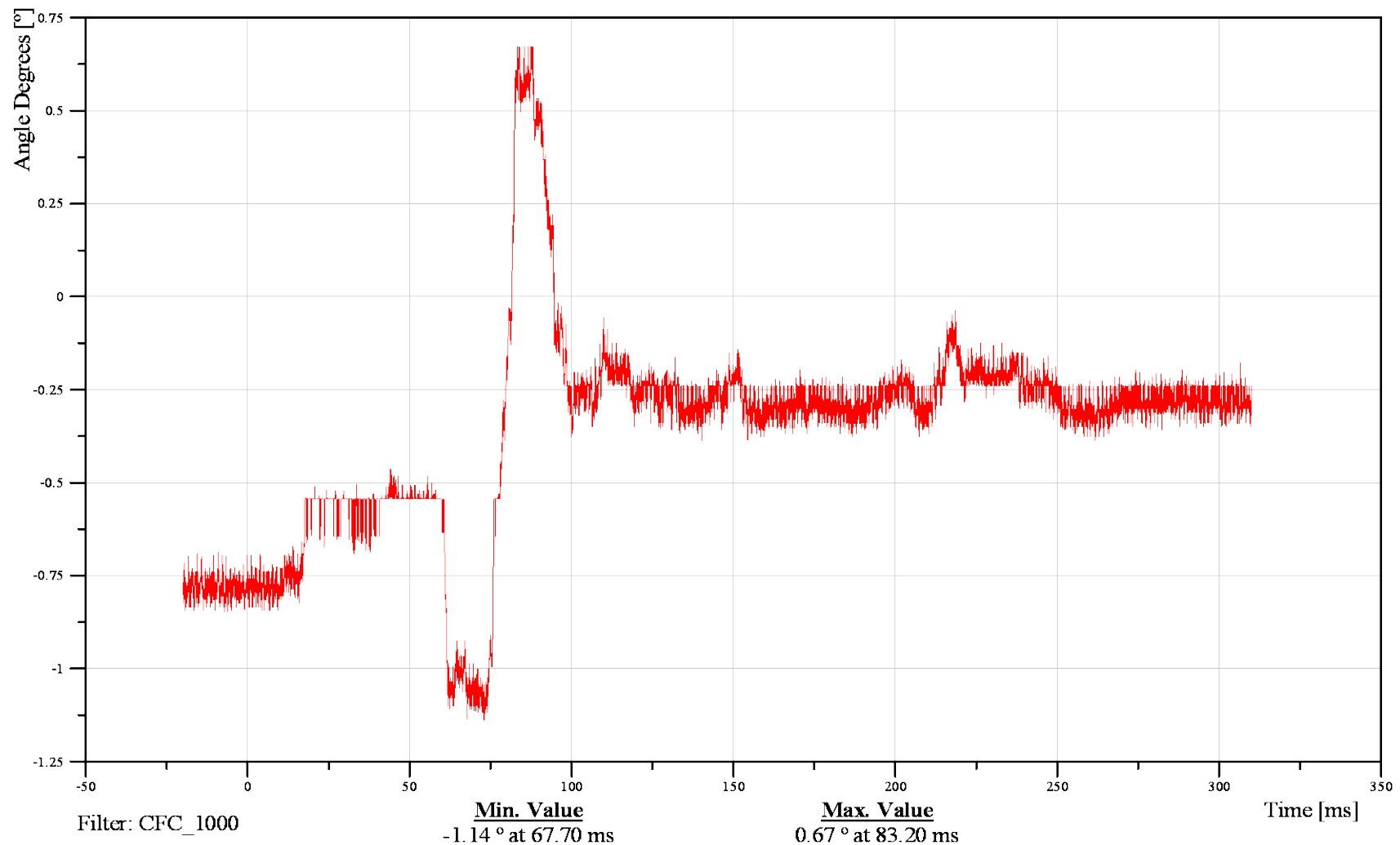
Time: 08:43

Customer: VRTC

14TRRILE03WFANZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 IRTRAC X Deflection

Date: 06/17/2013

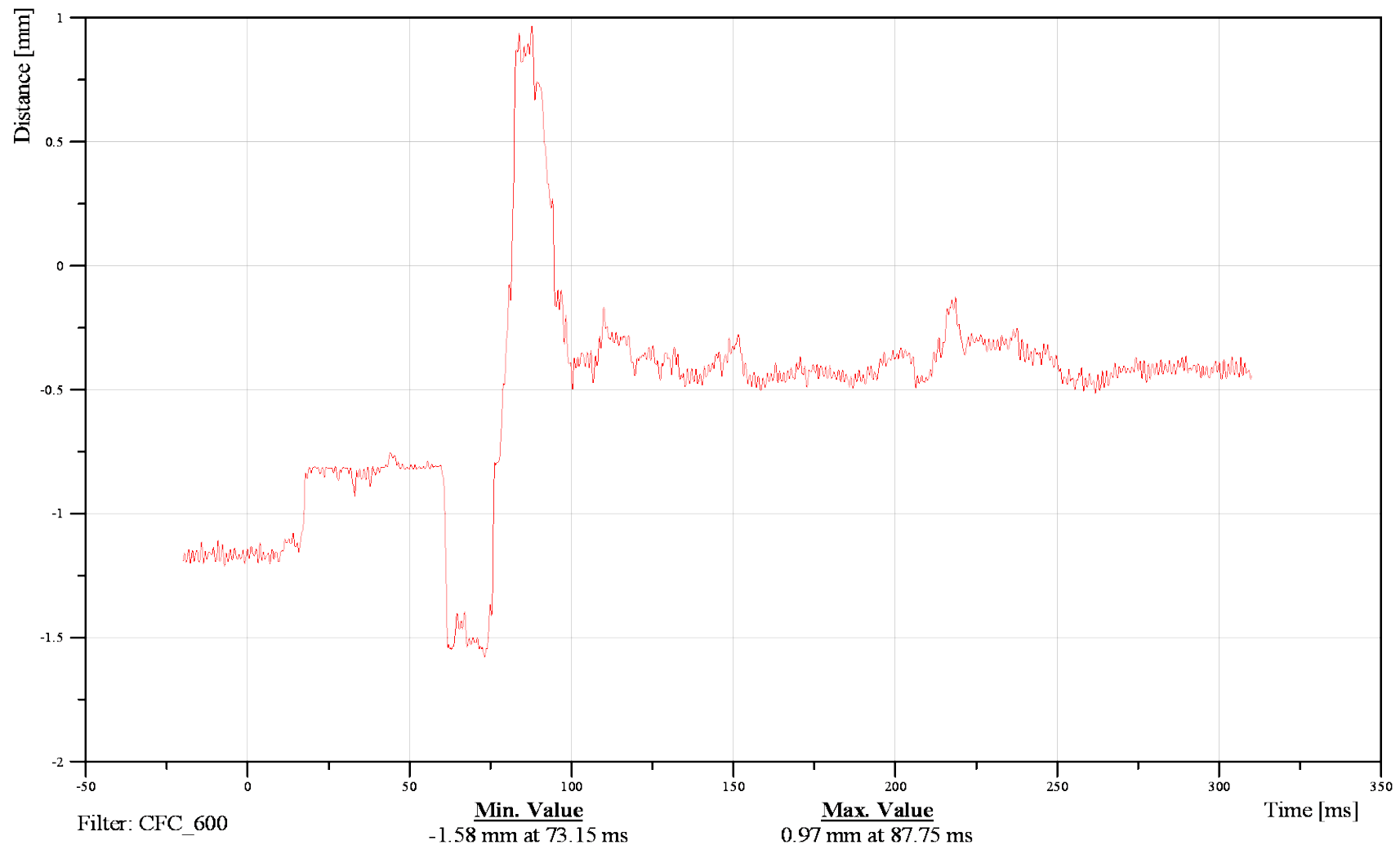
Time: 08:43

Customer: VRTC

14TRRILE03WFDSXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Rib 3 IRTRAC Y Deflection

Date: 06/17/2013

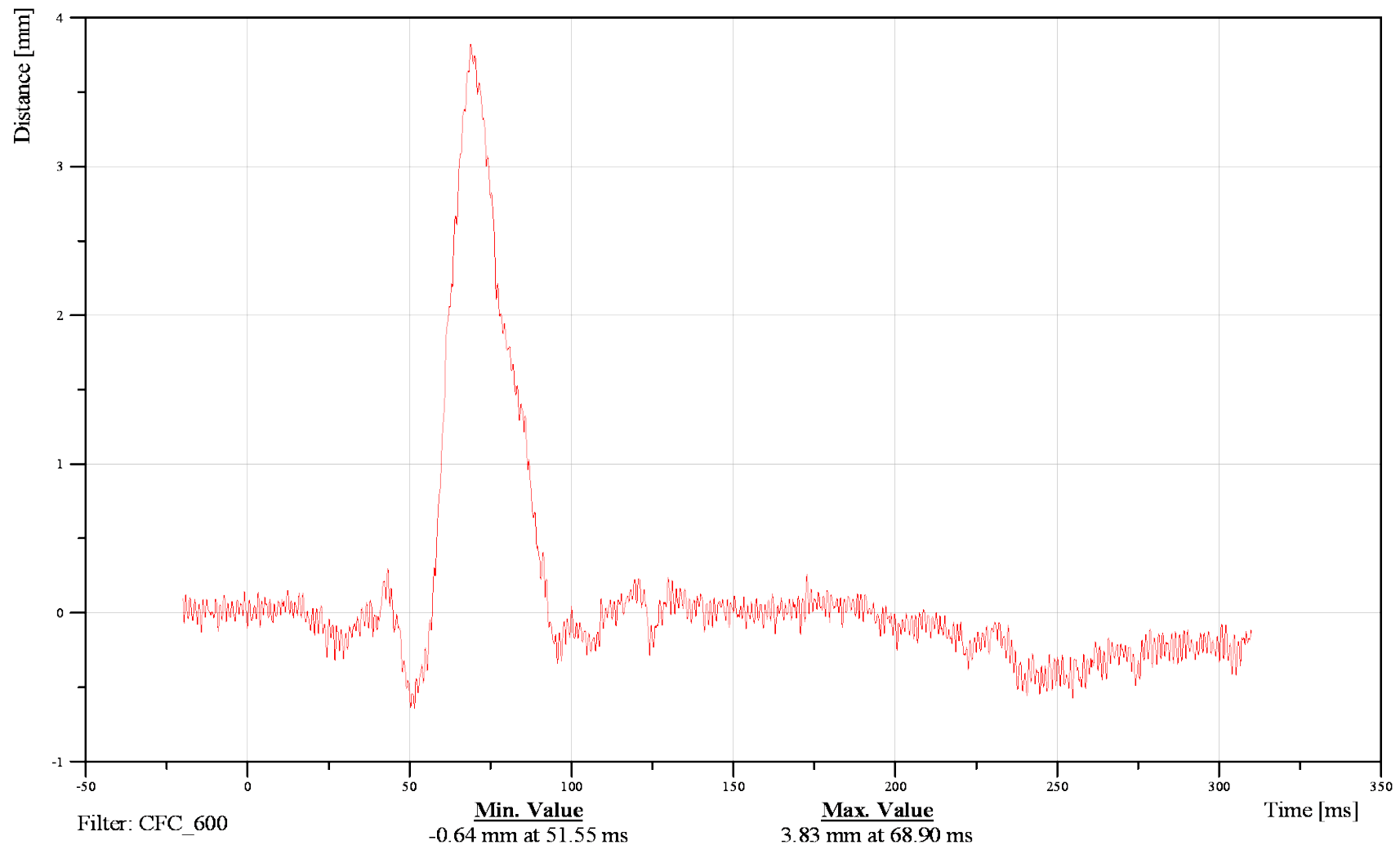
Time: 08:43

Customer: VRTC

14TRRILE03WFDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 Longitudinal Ax

Date: 06/17/2013

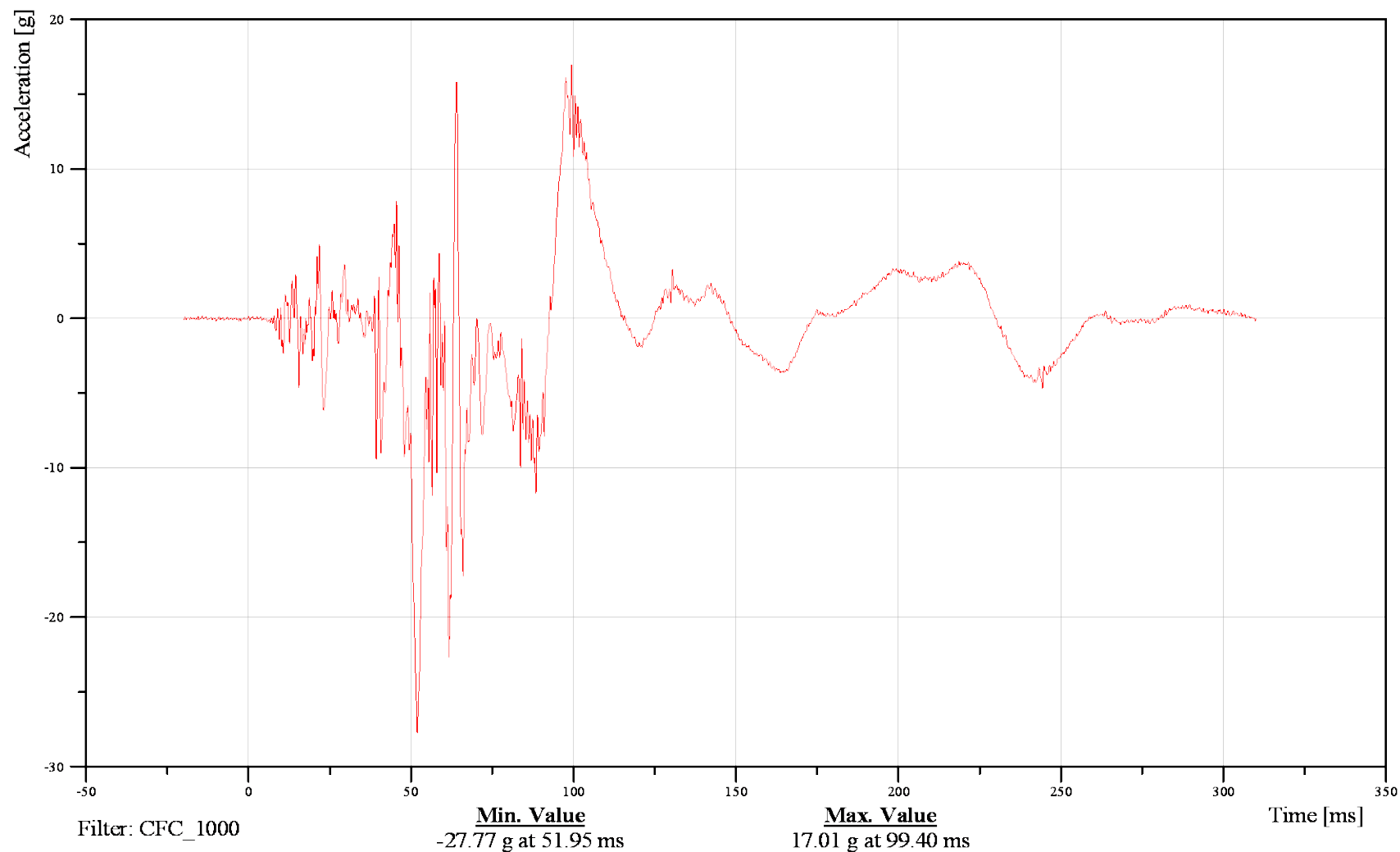
Time: 08:43

Customer: VRTC

14ABRILE01WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 Lateral Ay

Date: 06/17/2013

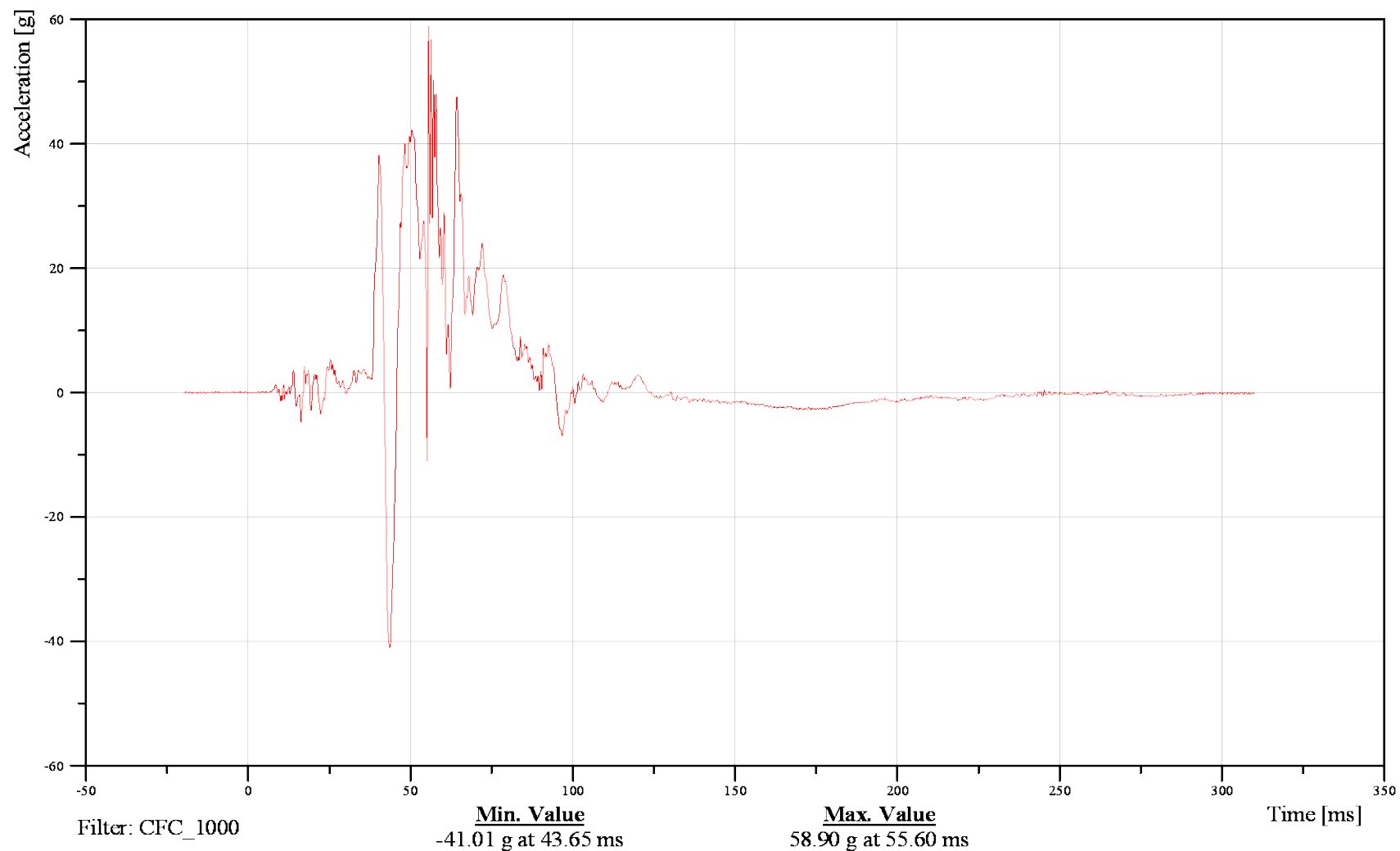
Time: 08:43

Customer: VRTC

14ABRILE01WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 Vertical Az

Date: 06/17/2013

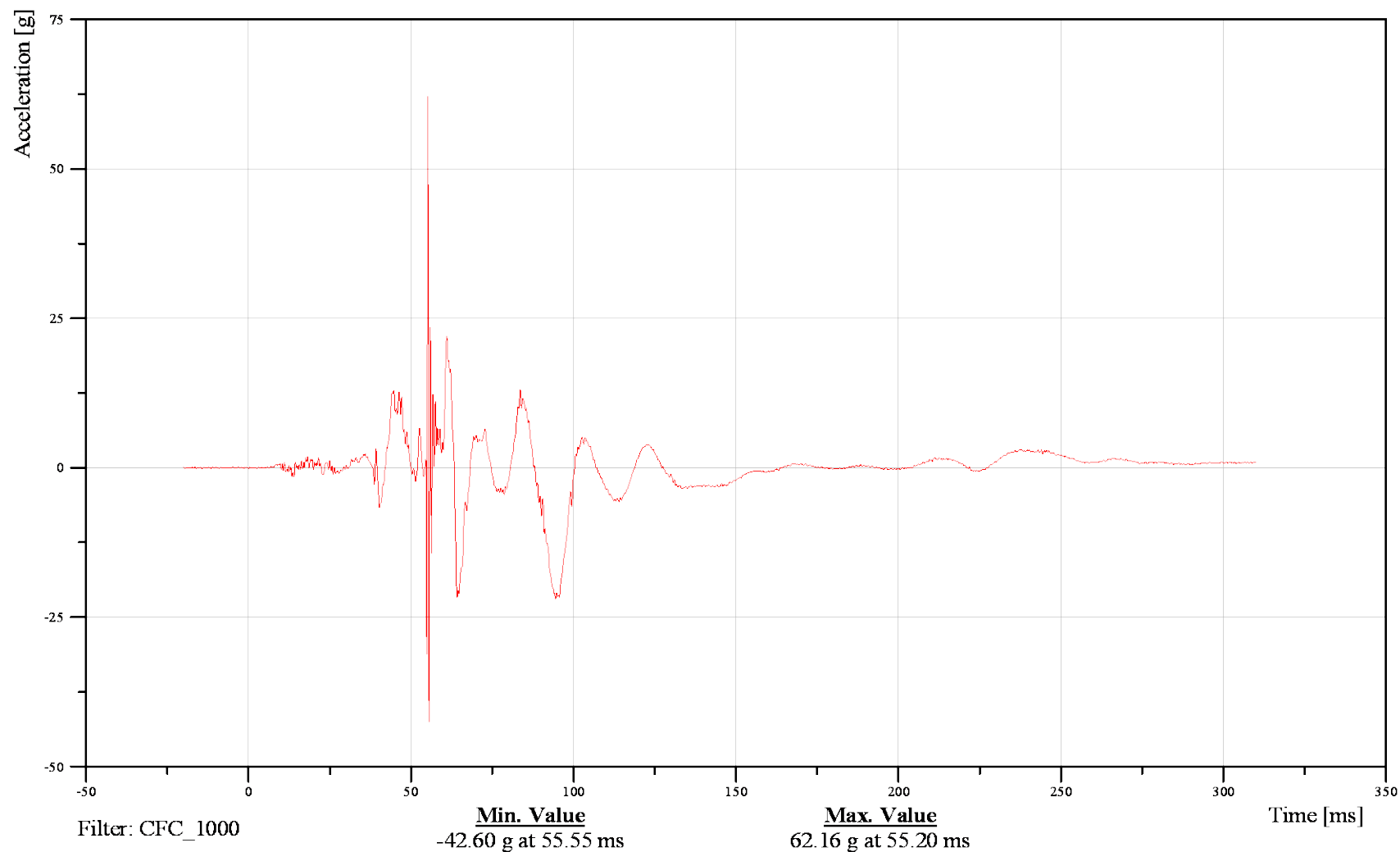
Time: 08:43

Customer: VRTC

14ABRILE01WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 1 A Resultant

Date: 06/17/2013

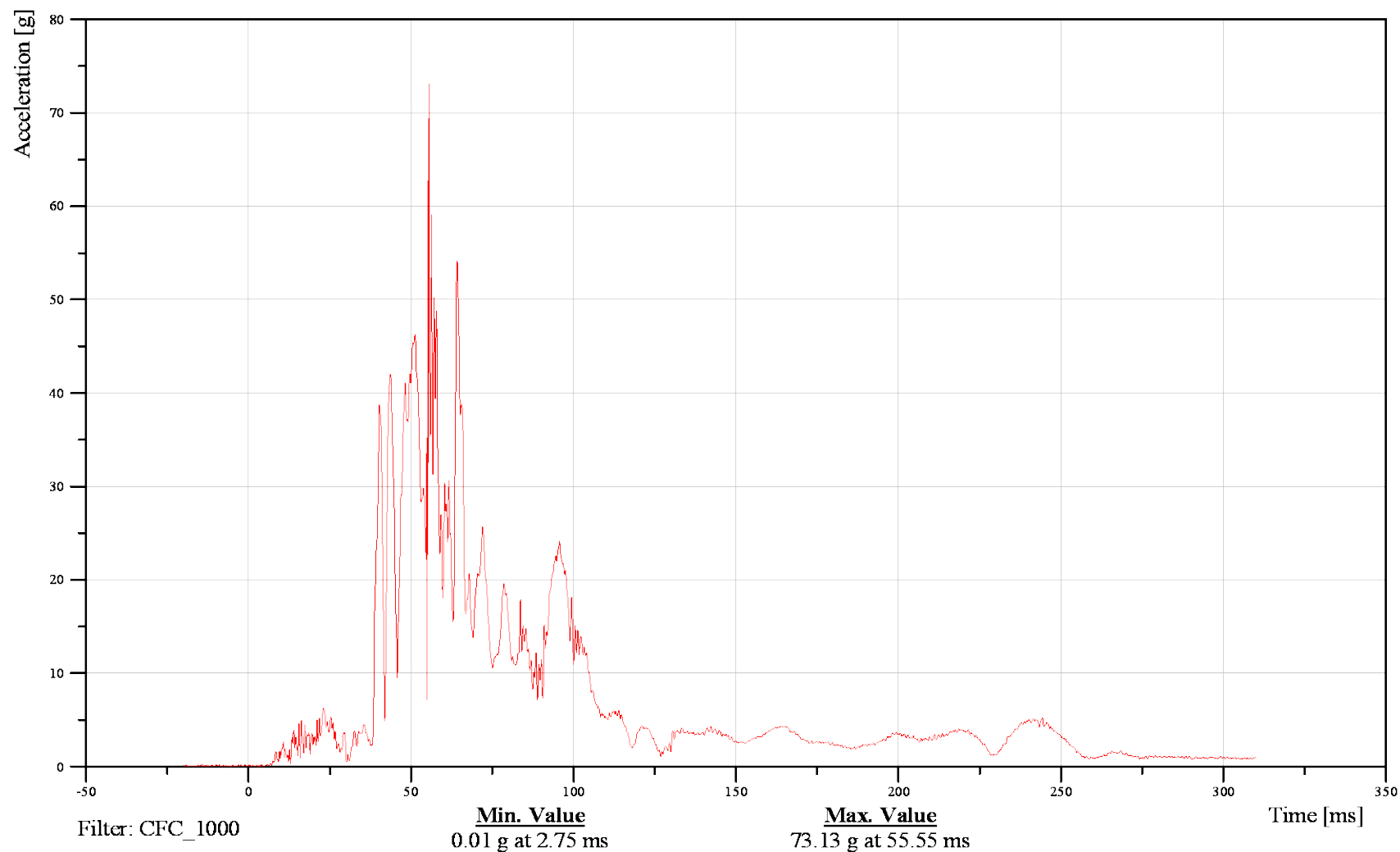
Time: 08:43

Customer: VRTC

14ABRILE01WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

ABD RIB 1 IRTRAC Compression

Date: 06/17/2013

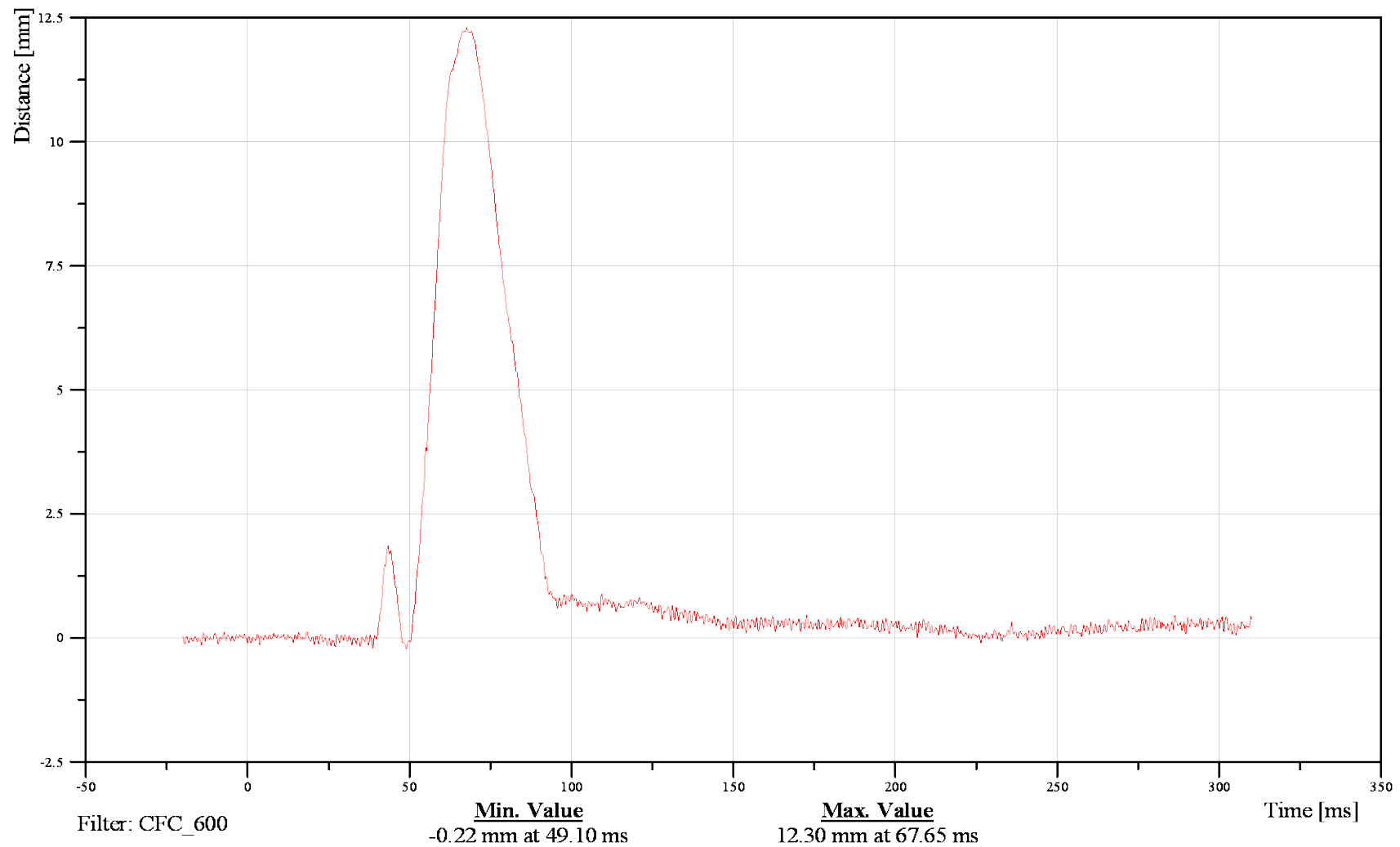
Time: 08:43

Customer: VRTC

14ABRILE01WFDC0B

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdomen Rib 1 Rotational angle

Date: 06/17/2013

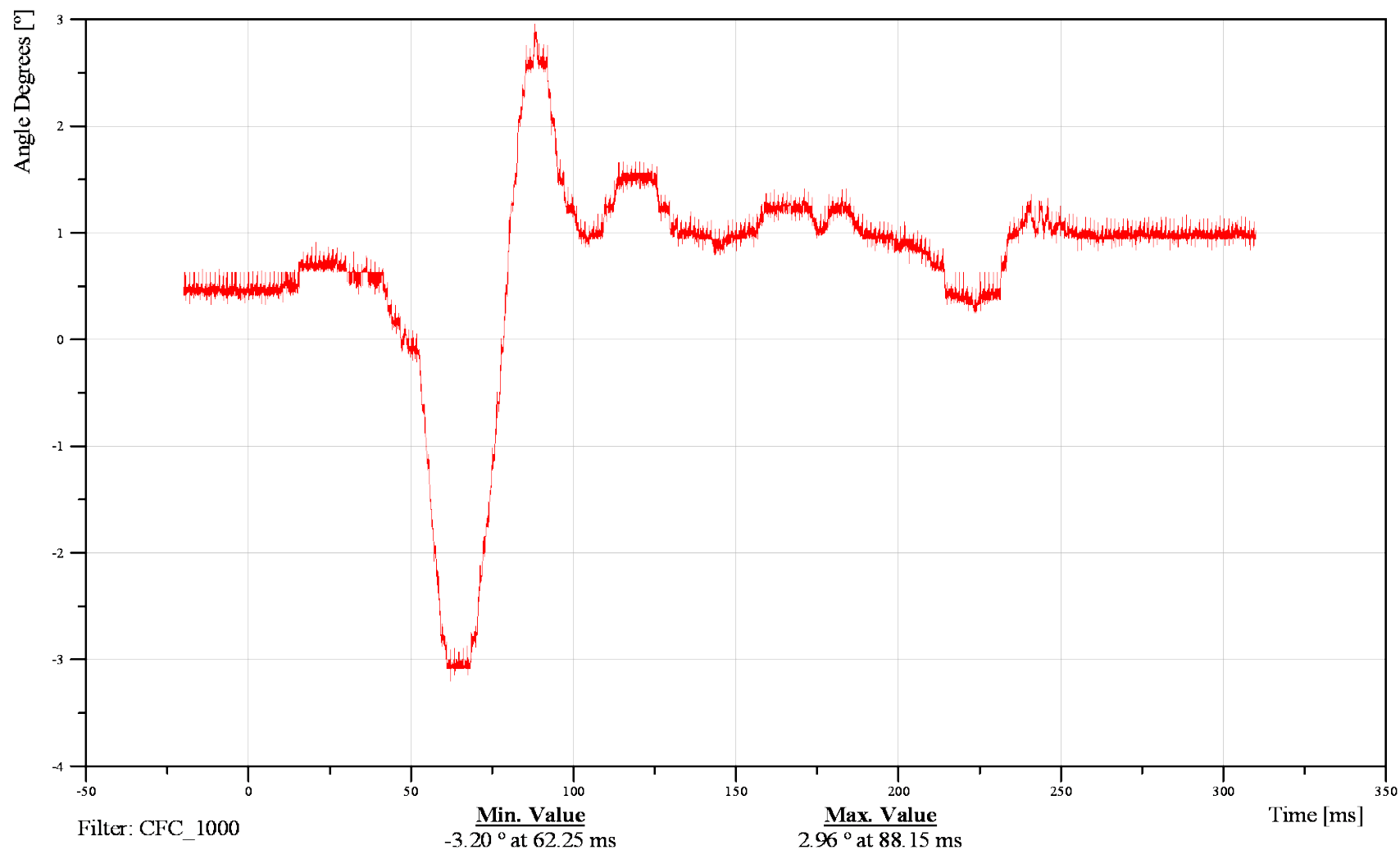
Time: 08:43

Customer: VRTC

14ABRILE01WFANZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdomen Rib 1 IRTRAC X Deflection

Date: 06/17/2013

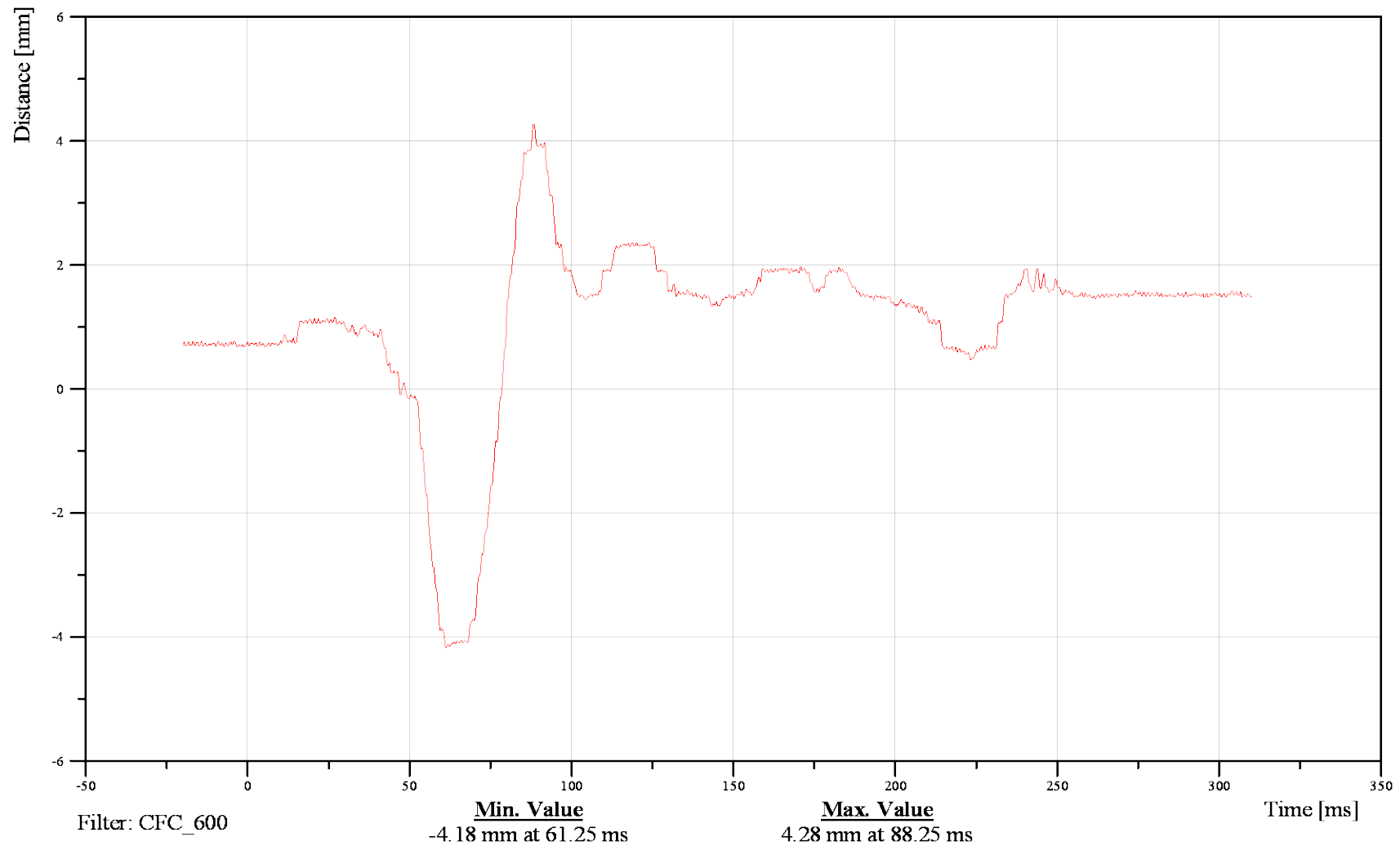
Time: 08:43

Customer: VRTC

14ABRILE01WFDSXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdomen Rib 1 IRTRAC Y Deflection

Date: 06/17/2013

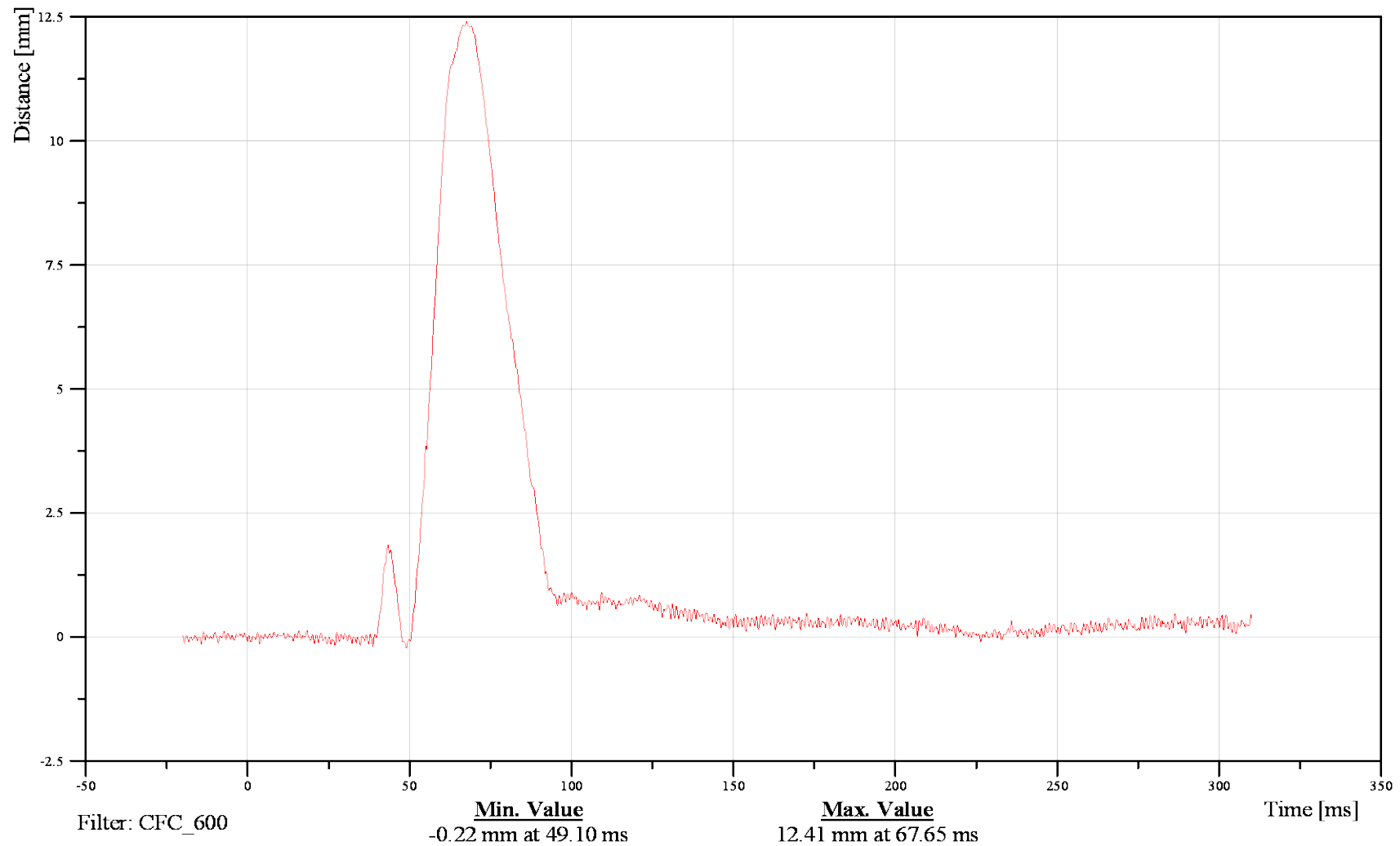
Time: 08:43

Customer: VRTC

14ABRILE01WFDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 Longitudinal Ax

Date: 06/17/2013

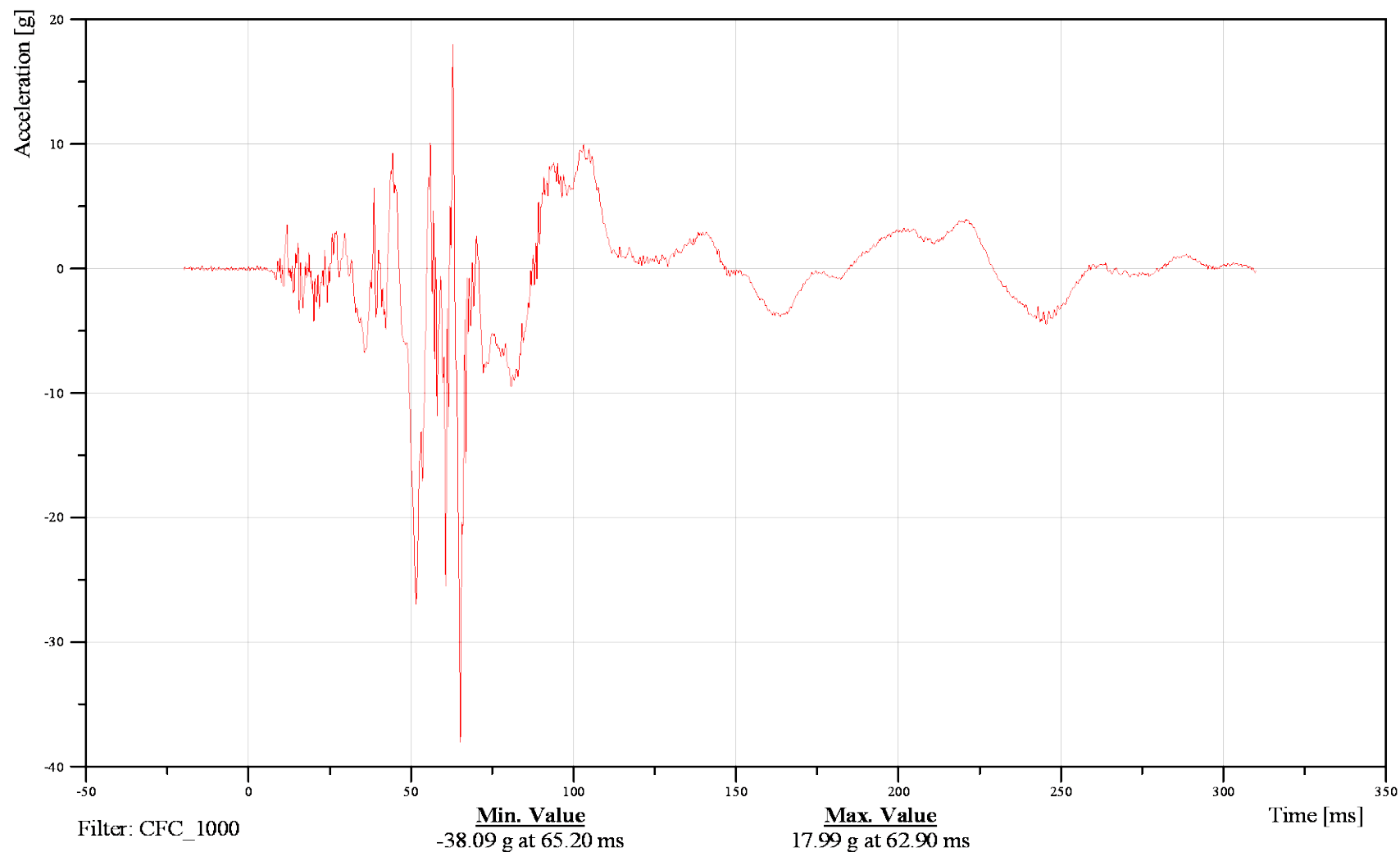
Time: 08:43

Customer: VRTC

14ABRILE02WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 Lateral Ay

Date: 06/17/2013

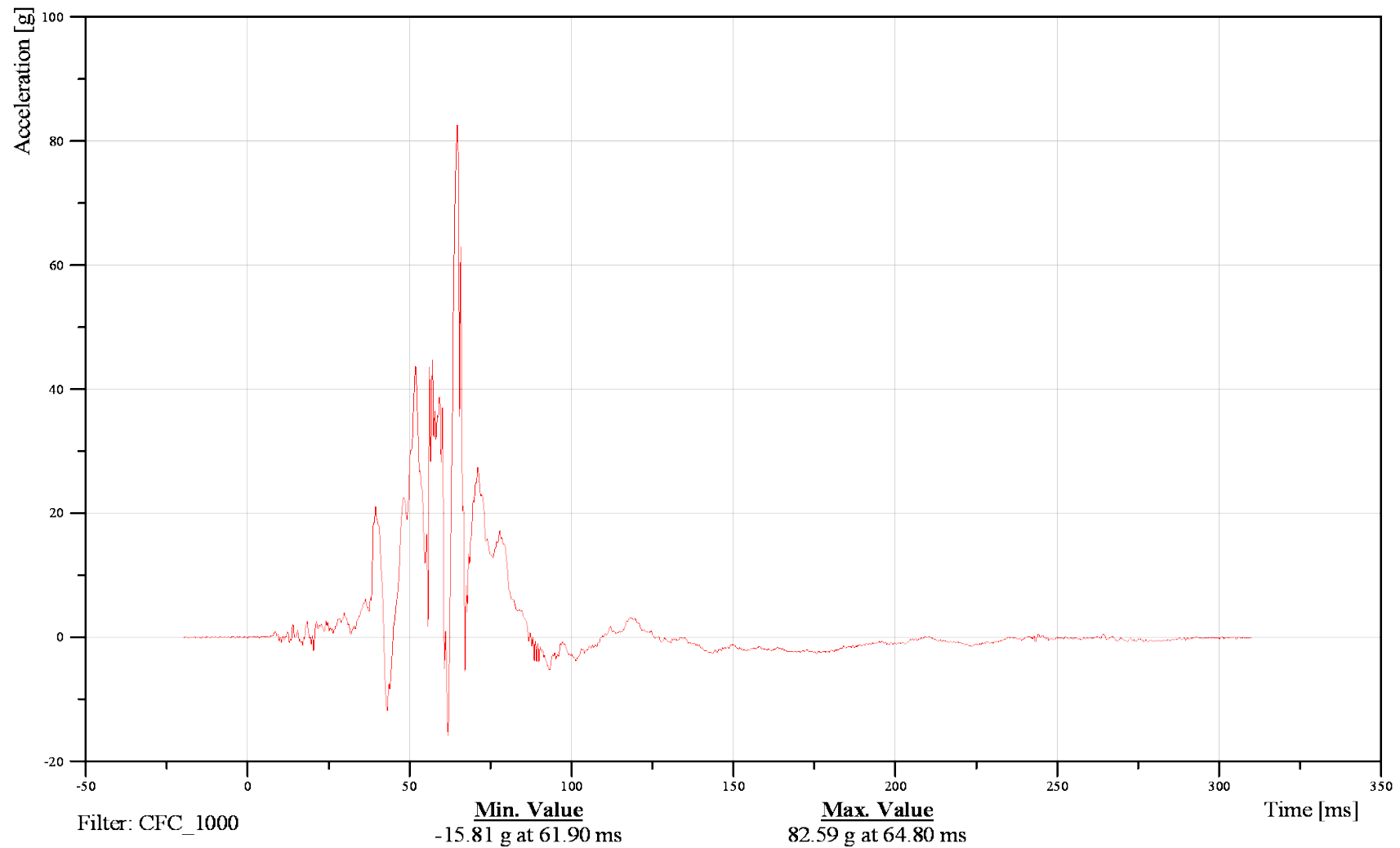
Time: 08:43

Customer: VRTC

14ABRILE02WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 Vertical Az

Date: 06/17/2013

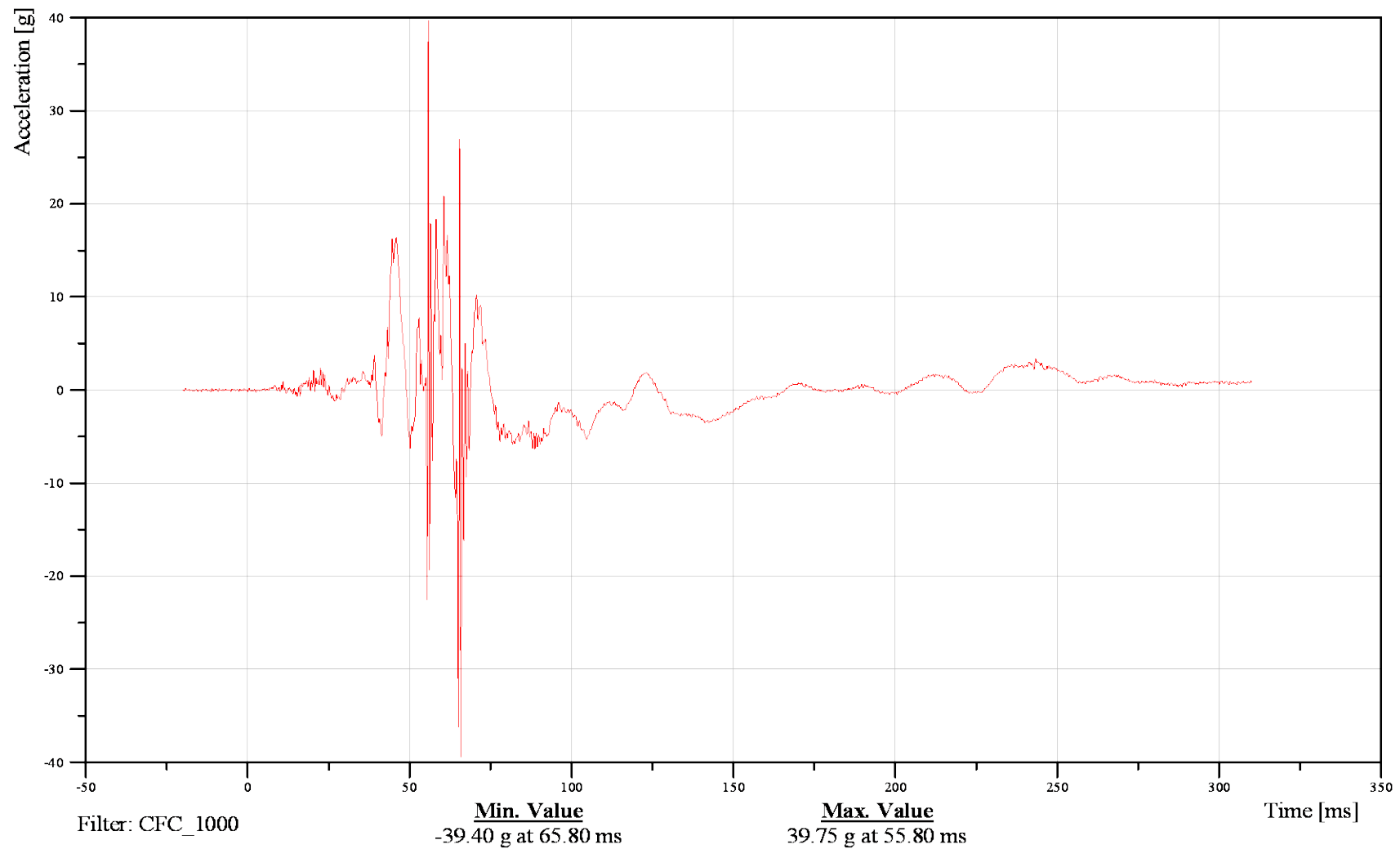
Time: 08:43

Customer: VRTC

14ABRILE02WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdominal Rib 2 A Resultant

Date: 06/17/2013

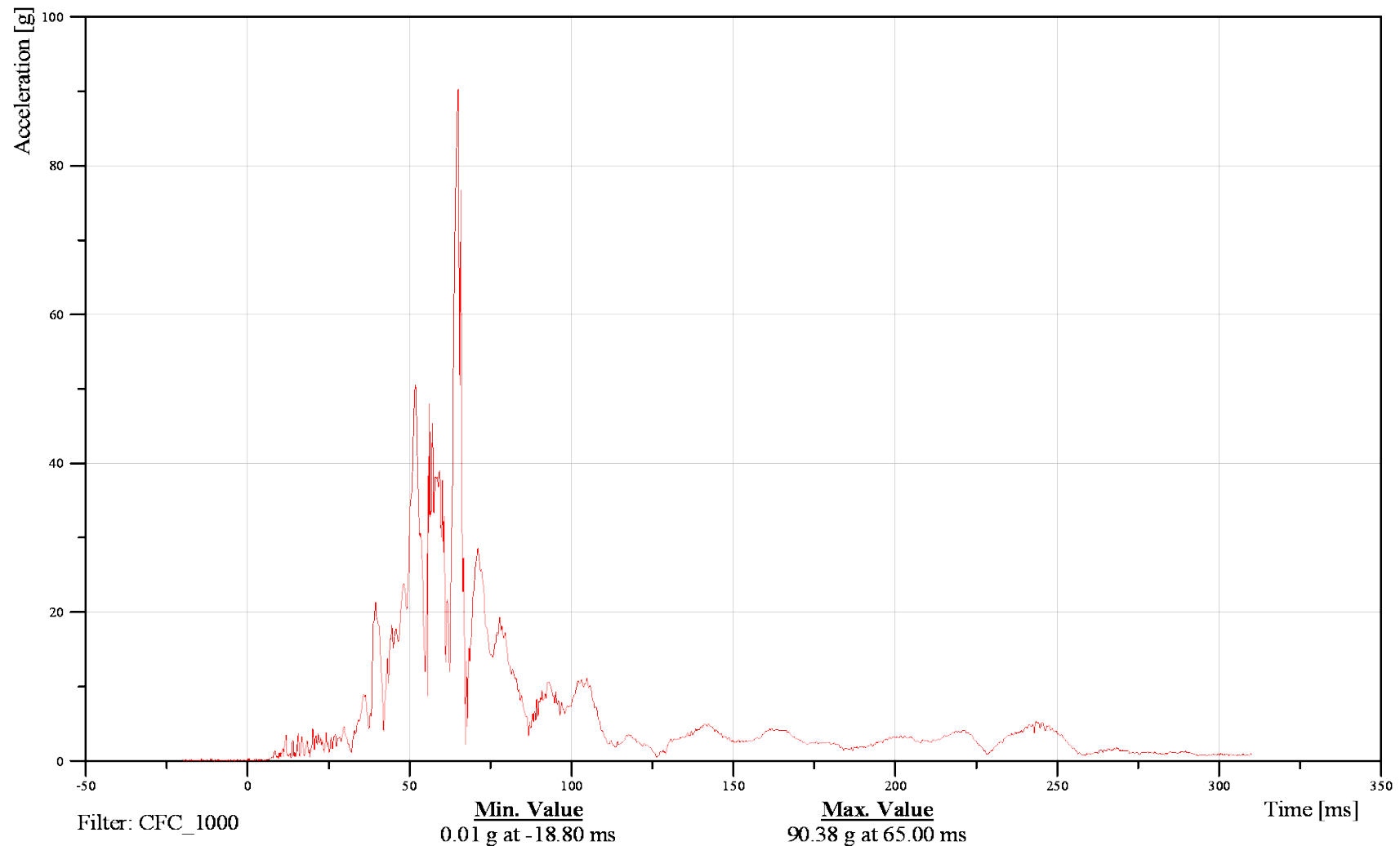
Time: 08:43

Customer: VRTC

14ABRILE02WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

ABD RIB 2 IRTRAC Compression

Date: 06/17/2013

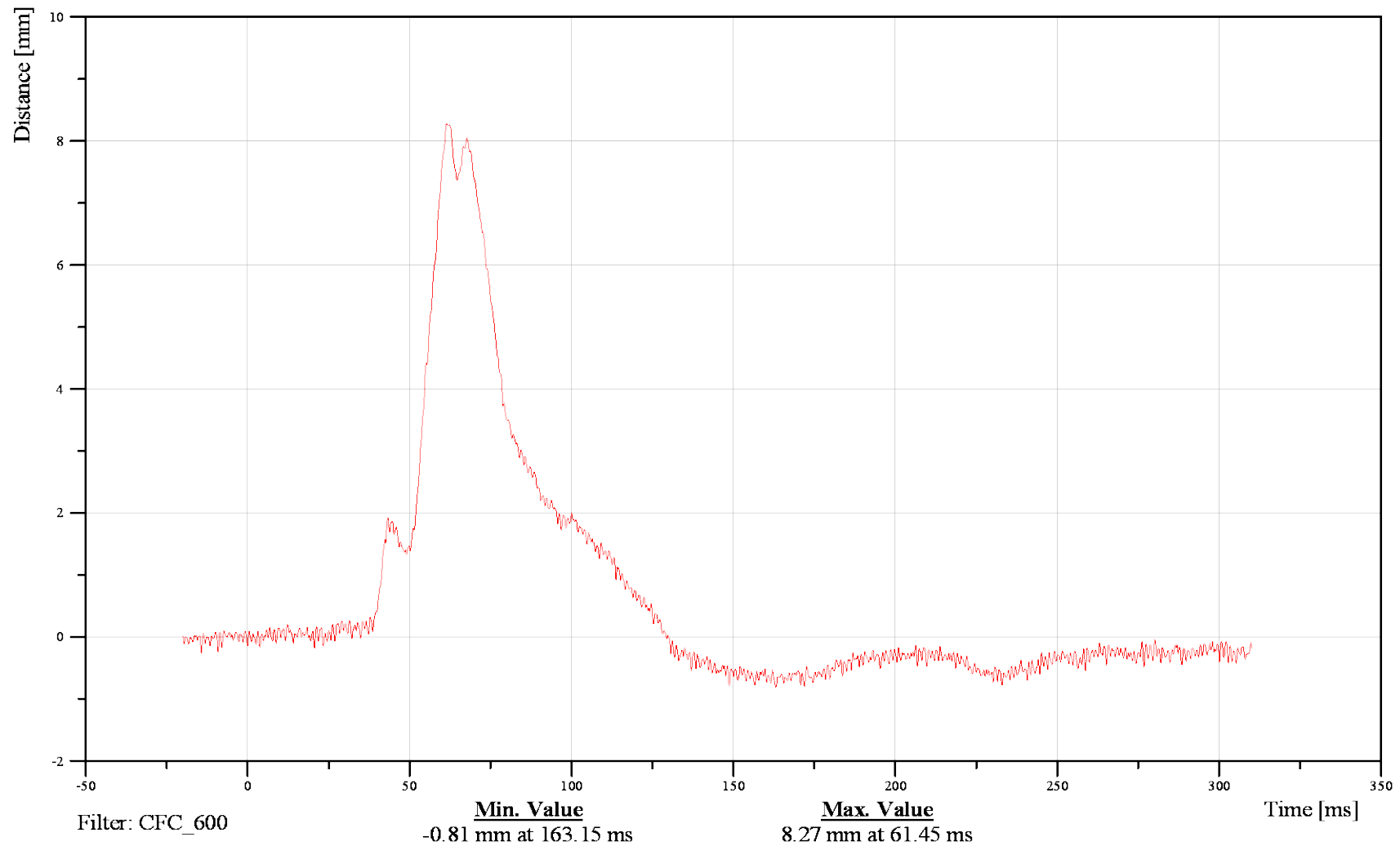
Time: 08:43

Customer: VRTC

14ABRILE02WFDC0B

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdomen Rib 2 Rotational angle

Date: 06/17/2013

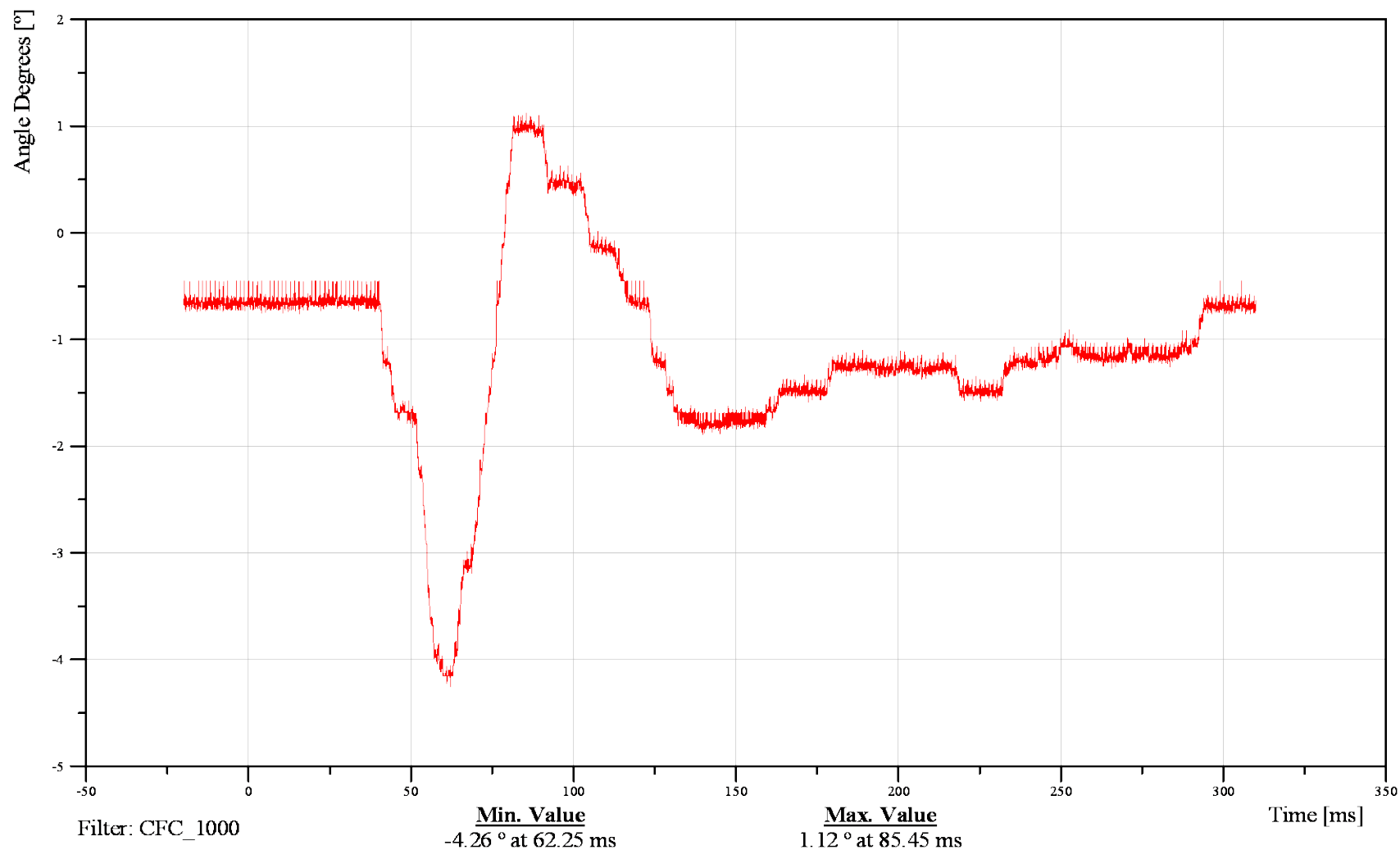
Time: 08:43

Customer: VRTC

14ABRILE02WFANZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdomen Rib 2 IRTRAC X Deflection

Date: 06/17/2013

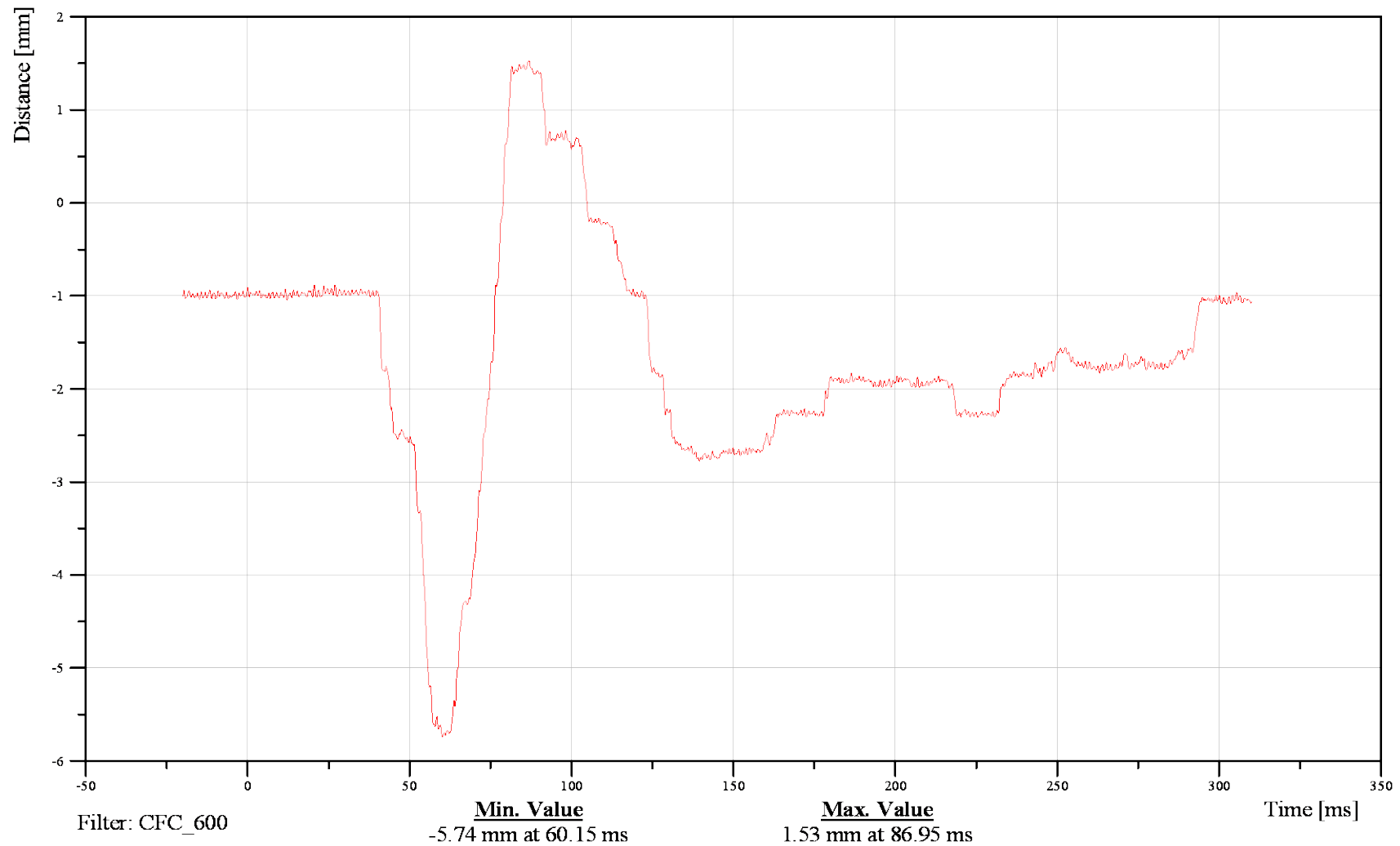
Time: 08:43

Customer: VRTC

14ABRILE02WFDSXB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Abdomen Rib 2 IRTRAC Y Deflection

Date: 06/17/2013

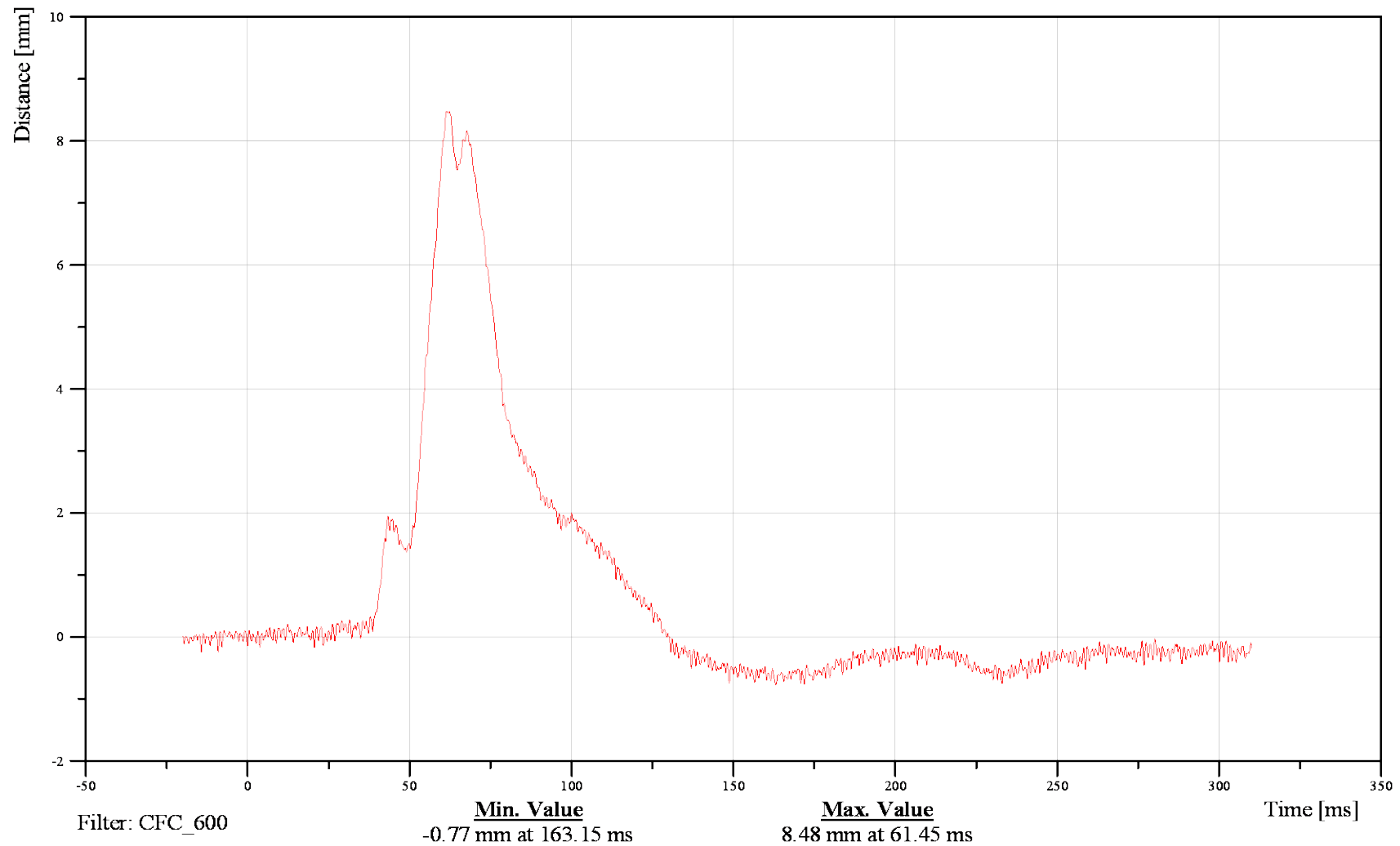
Time: 08:43

Customer: VRTC

14ABRILE02WFDSYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 Longitudinal Ax

Date: 06/17/2013

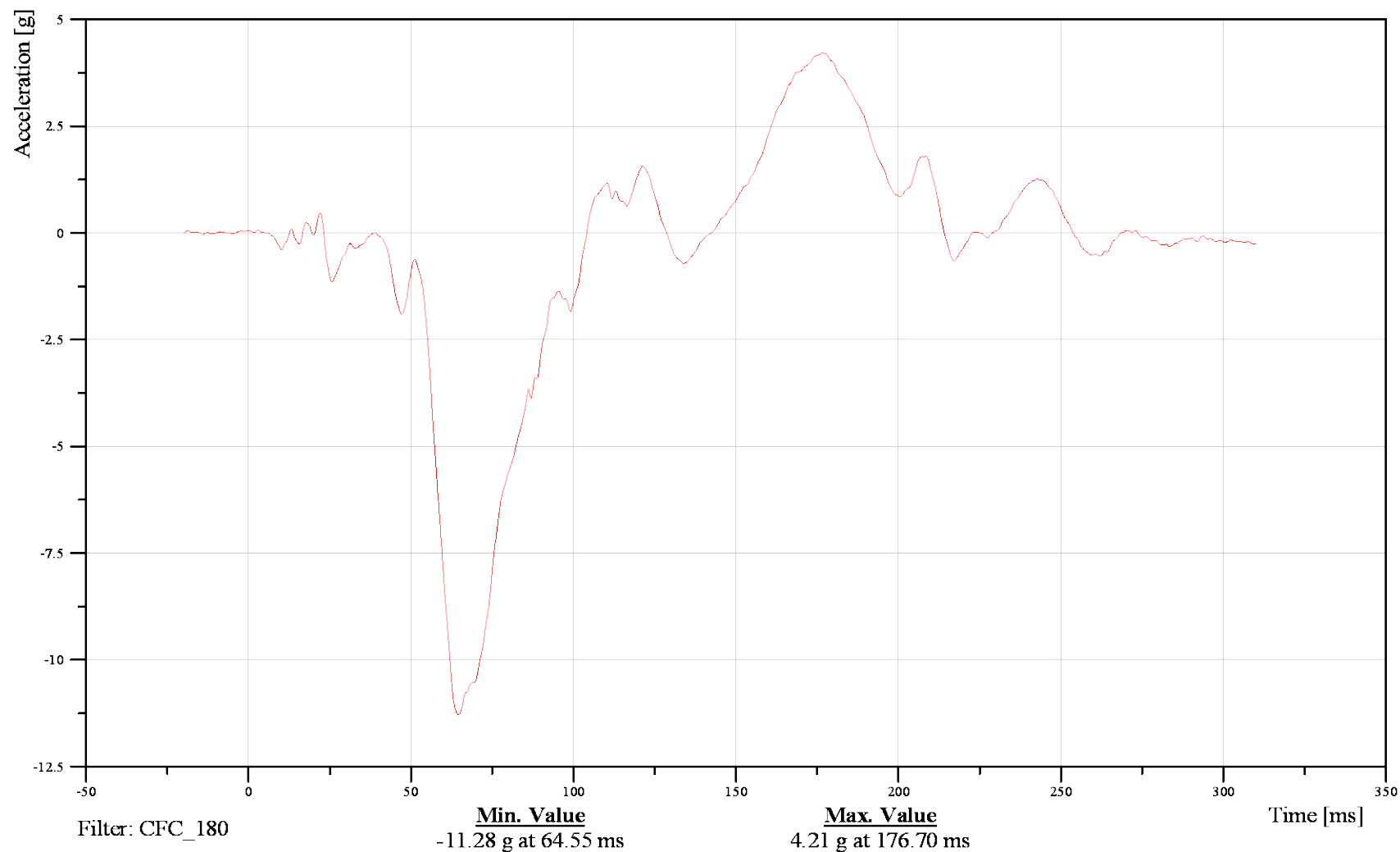
Time: 08:43

Customer: VRTC

14THSP0400WFACXC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 Lateral Ay

Date: 06/17/2013

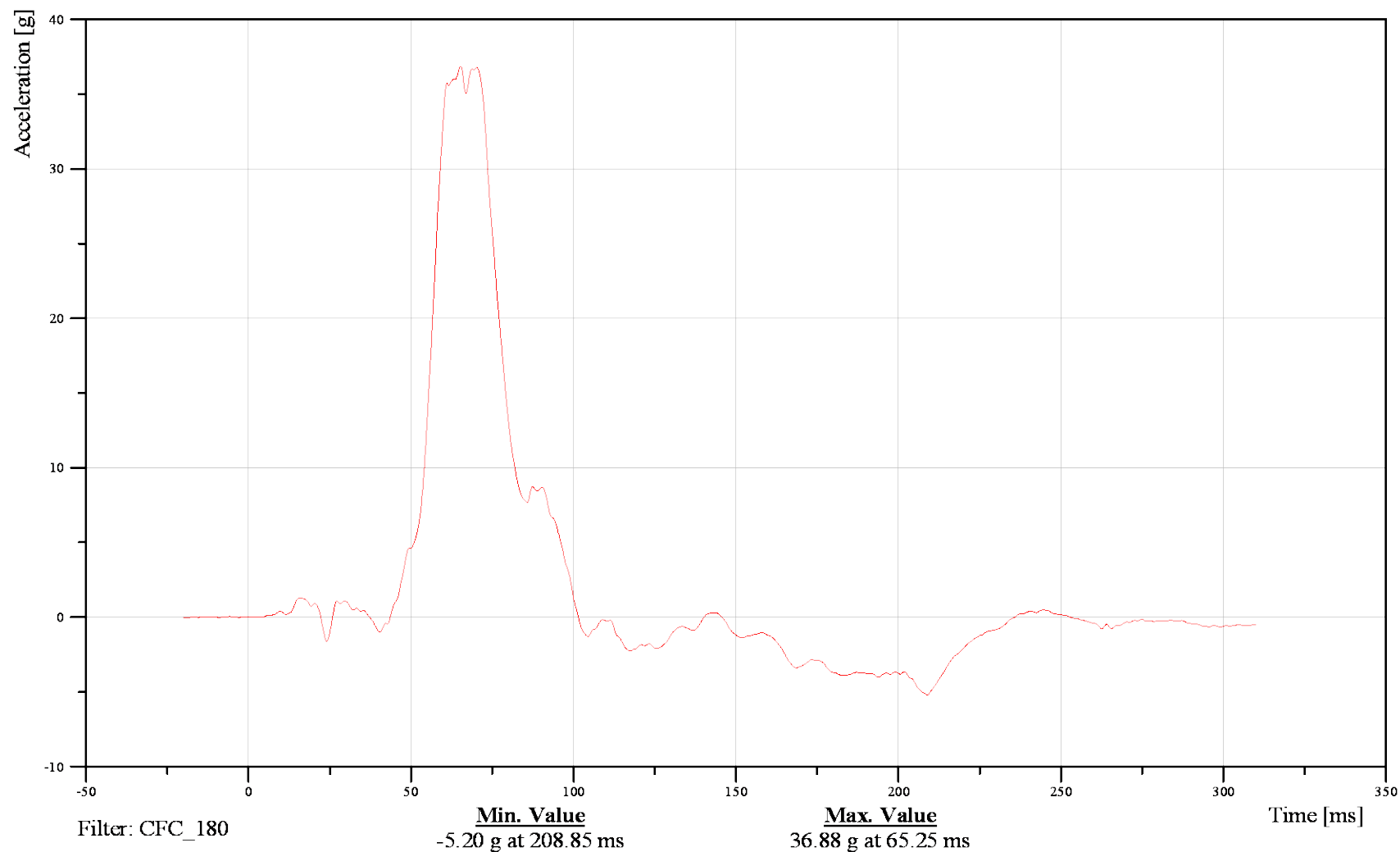
Time: 08:43

Customer: VRTC

14THSP0400WFACYC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 Vertical Az

Date: 06/17/2013

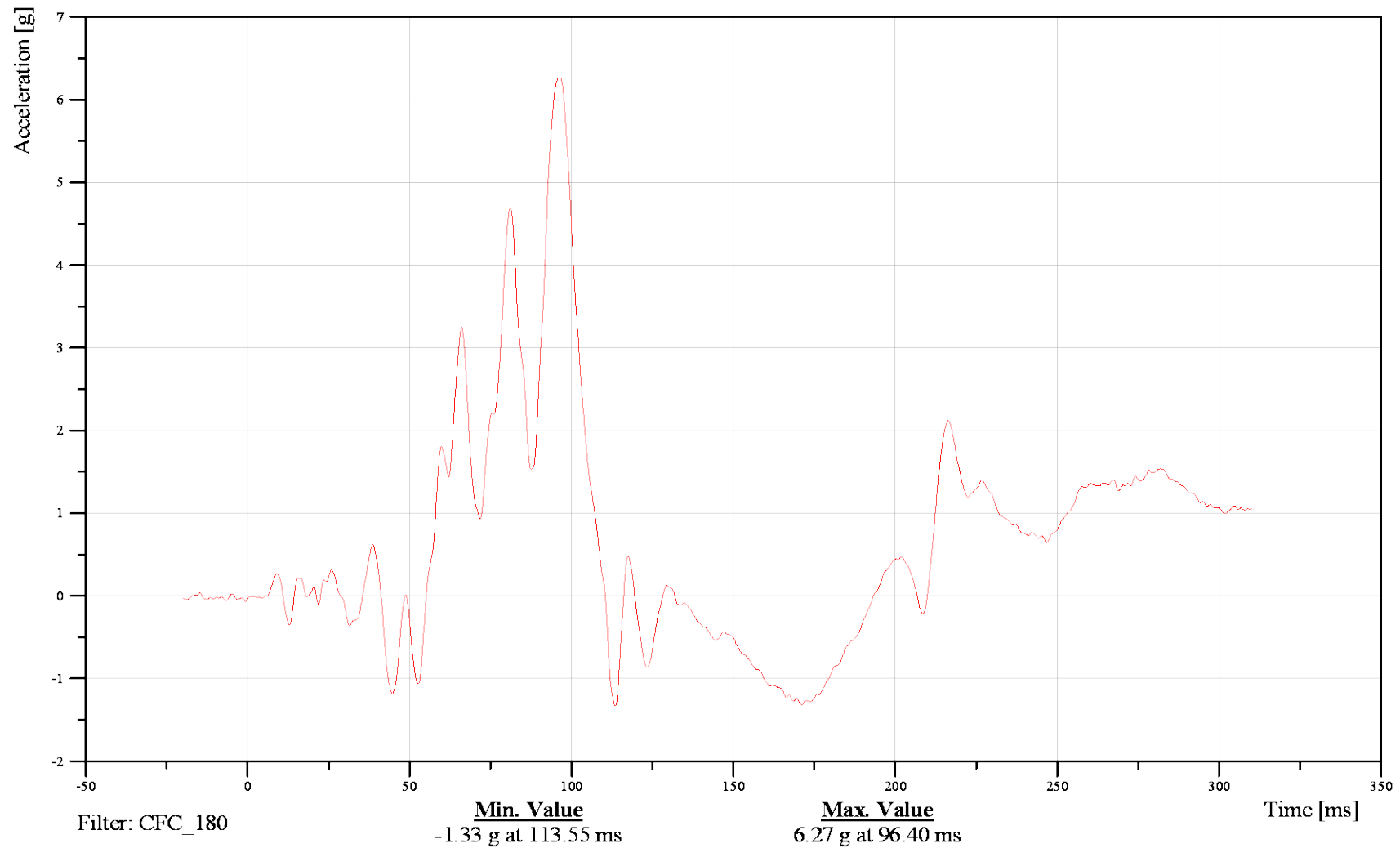
Time: 08:43

Customer: VRTC

14THSP0400WFACZC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T4 A Resultant

Date: 06/17/2013

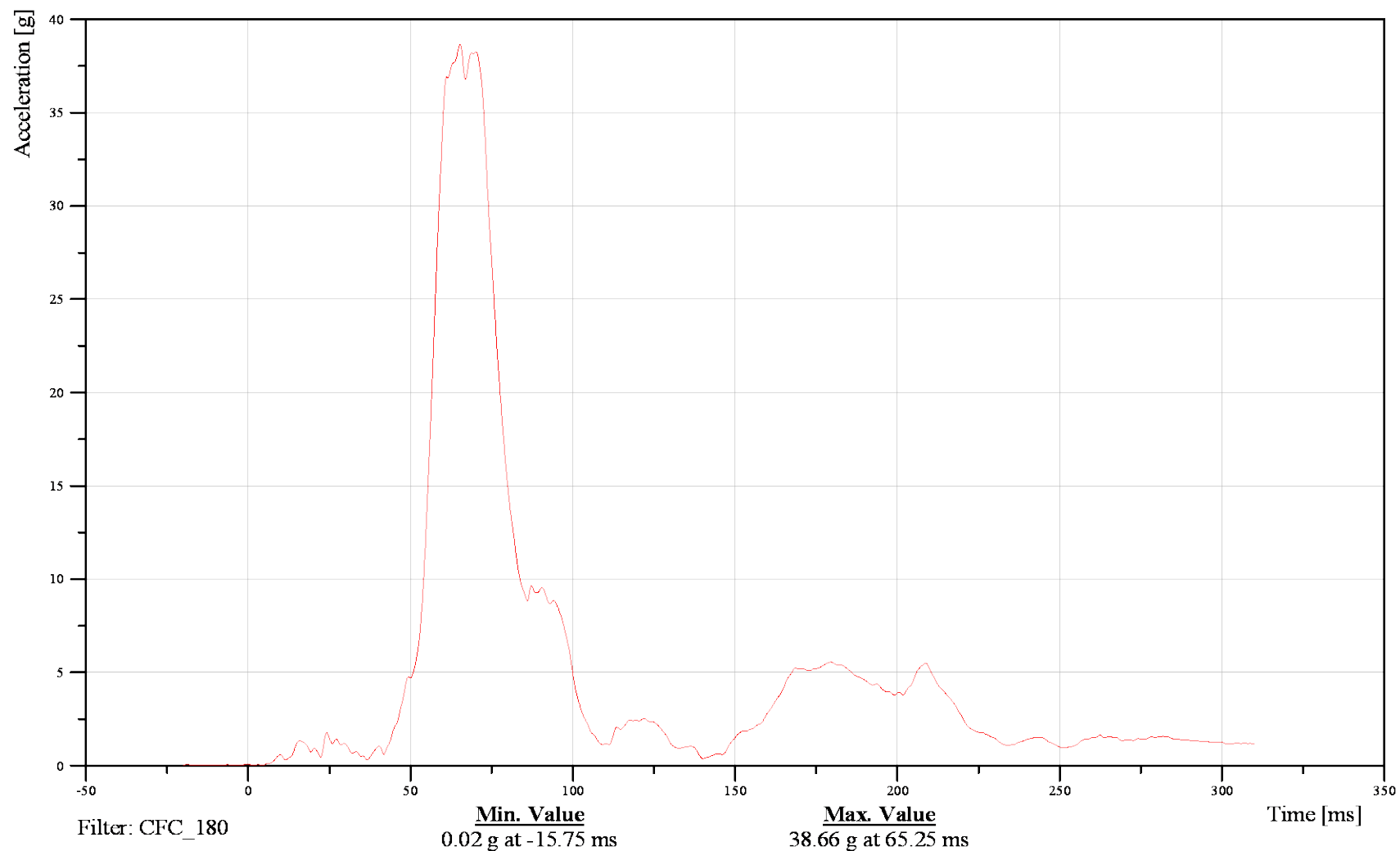
Time: 08:43

Customer: VRTC

14THSP0400WFACRC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 Longitudinal Ax

Date: 06/17/2013

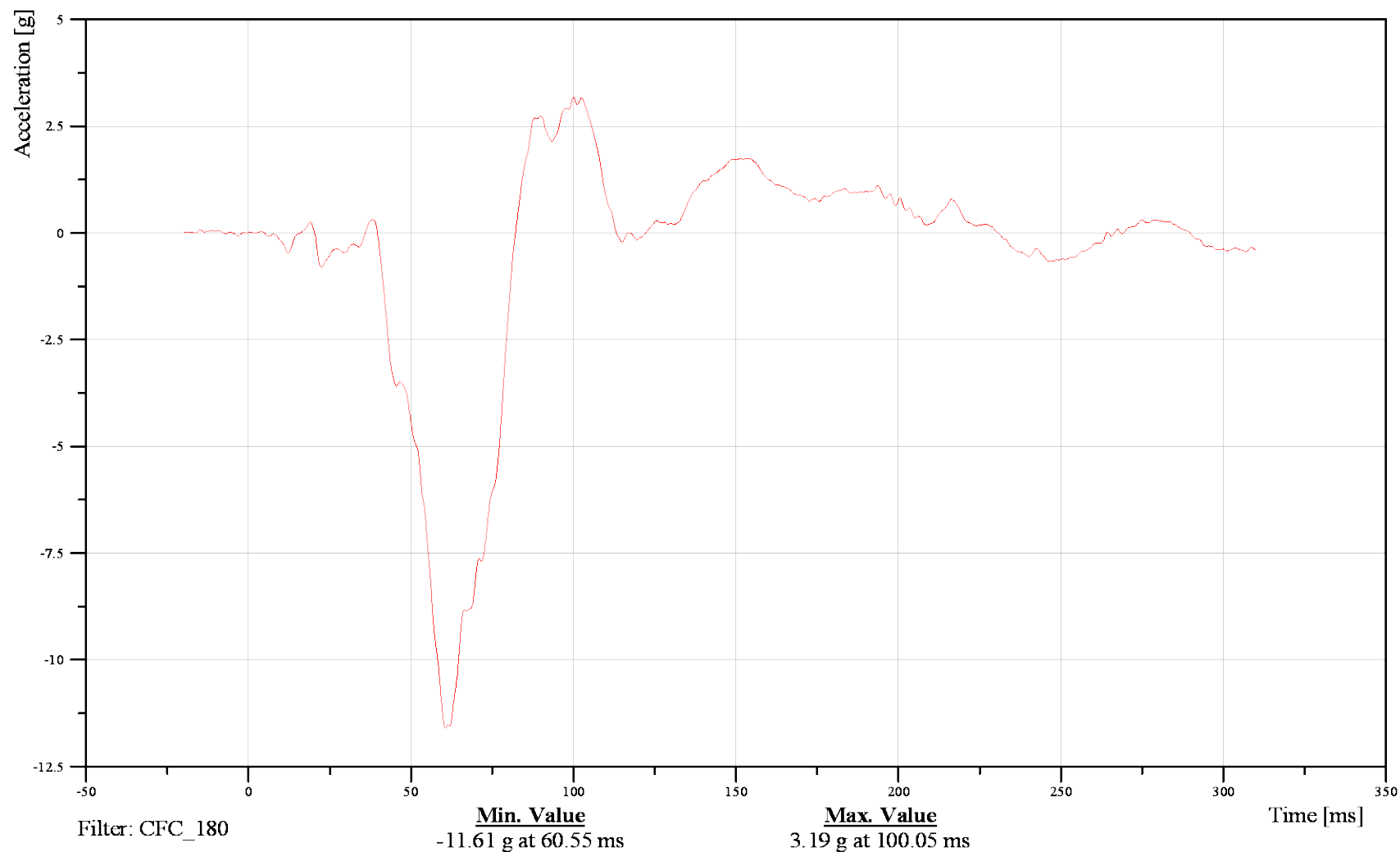
Time: 08:43

Customer: VRTC

14THSP1200WFACXC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 Lateral Ay

Date: 06/17/2013

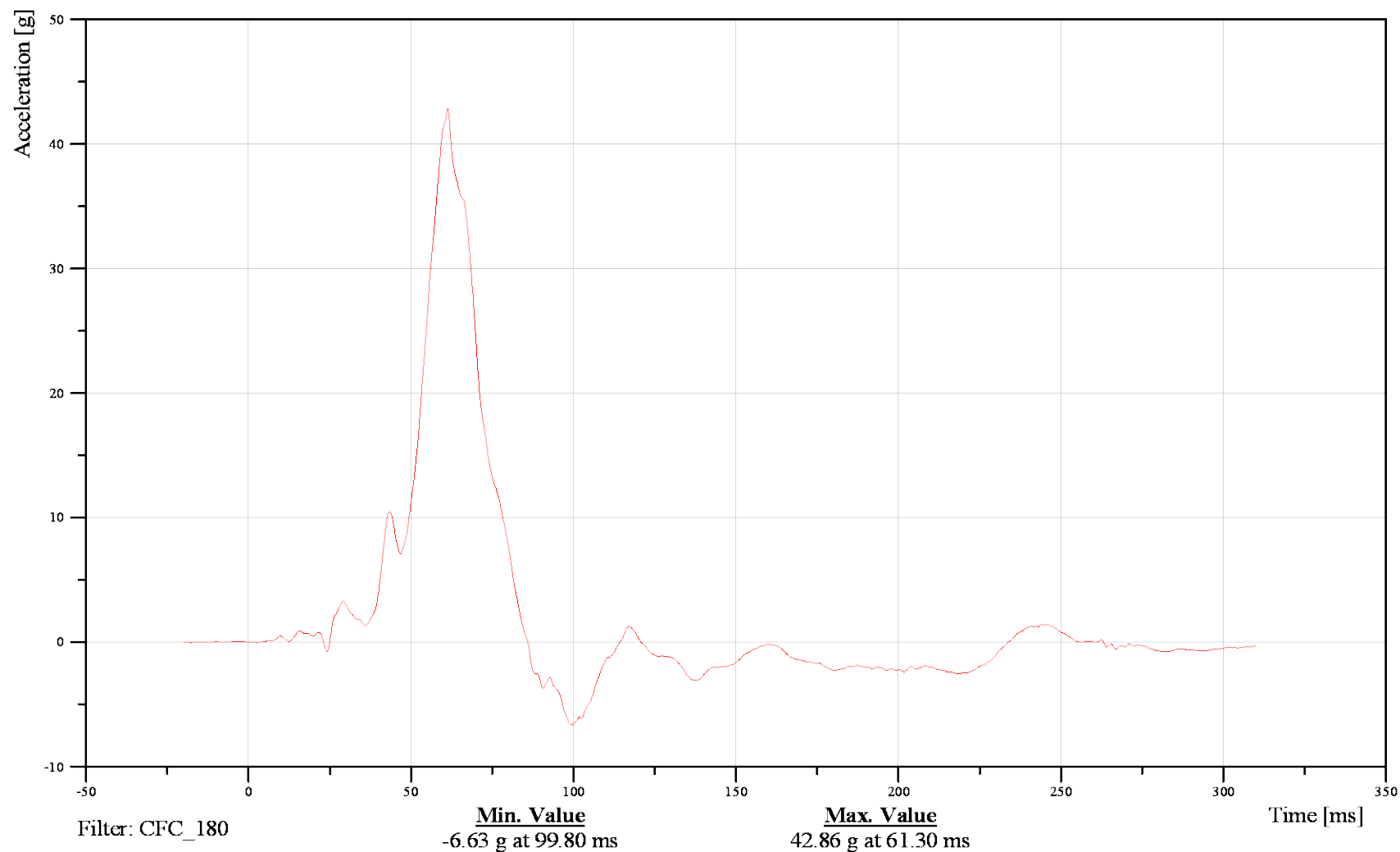
Time: 08:43

Customer: VRTC

14THSP1200WFACYC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 Vertical Az

Date: 06/17/2013

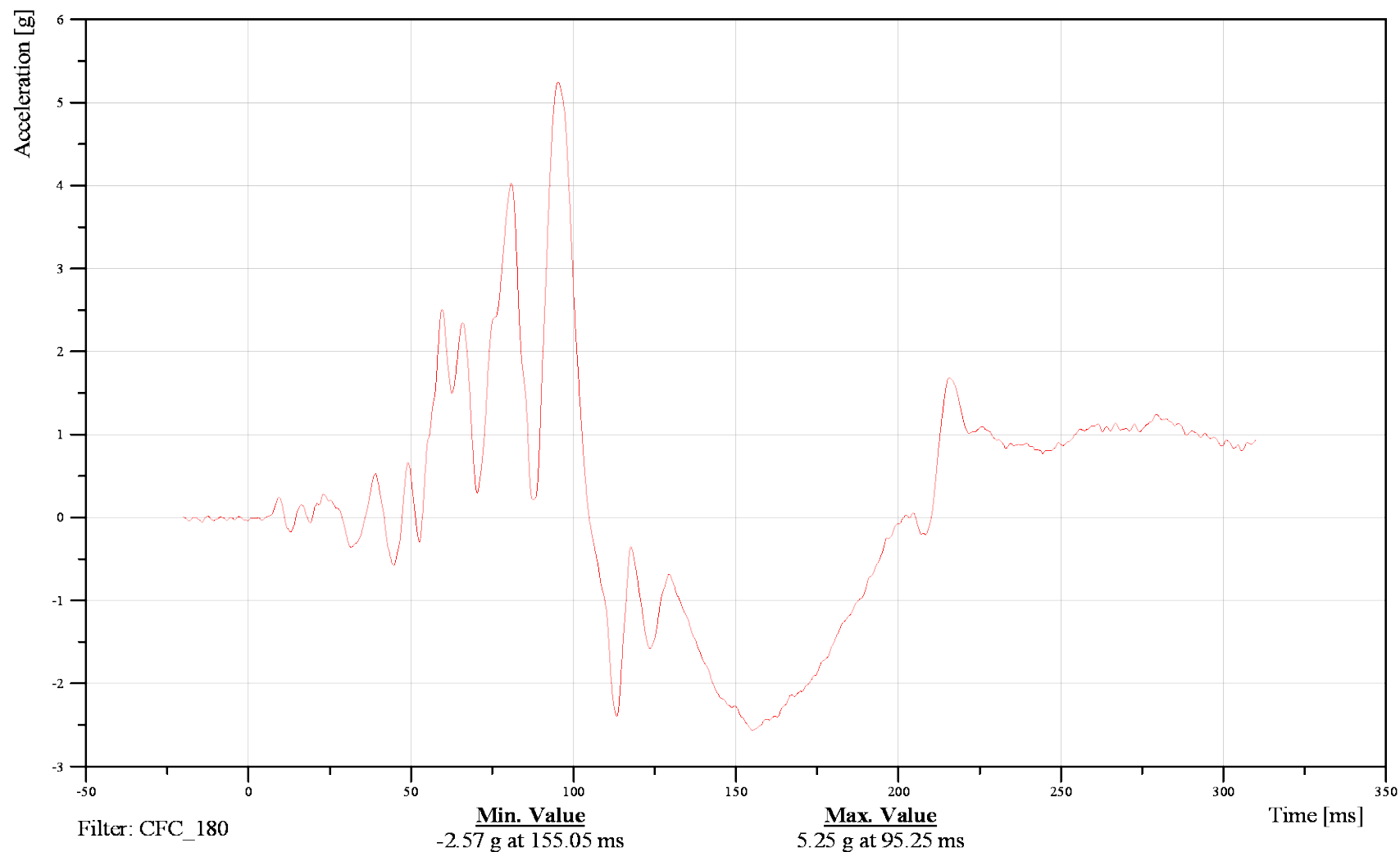
Time: 08:43

Customer: VRTC

14THSP1200WFACZC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

T12 A Resultant

Date: 06/17/2013

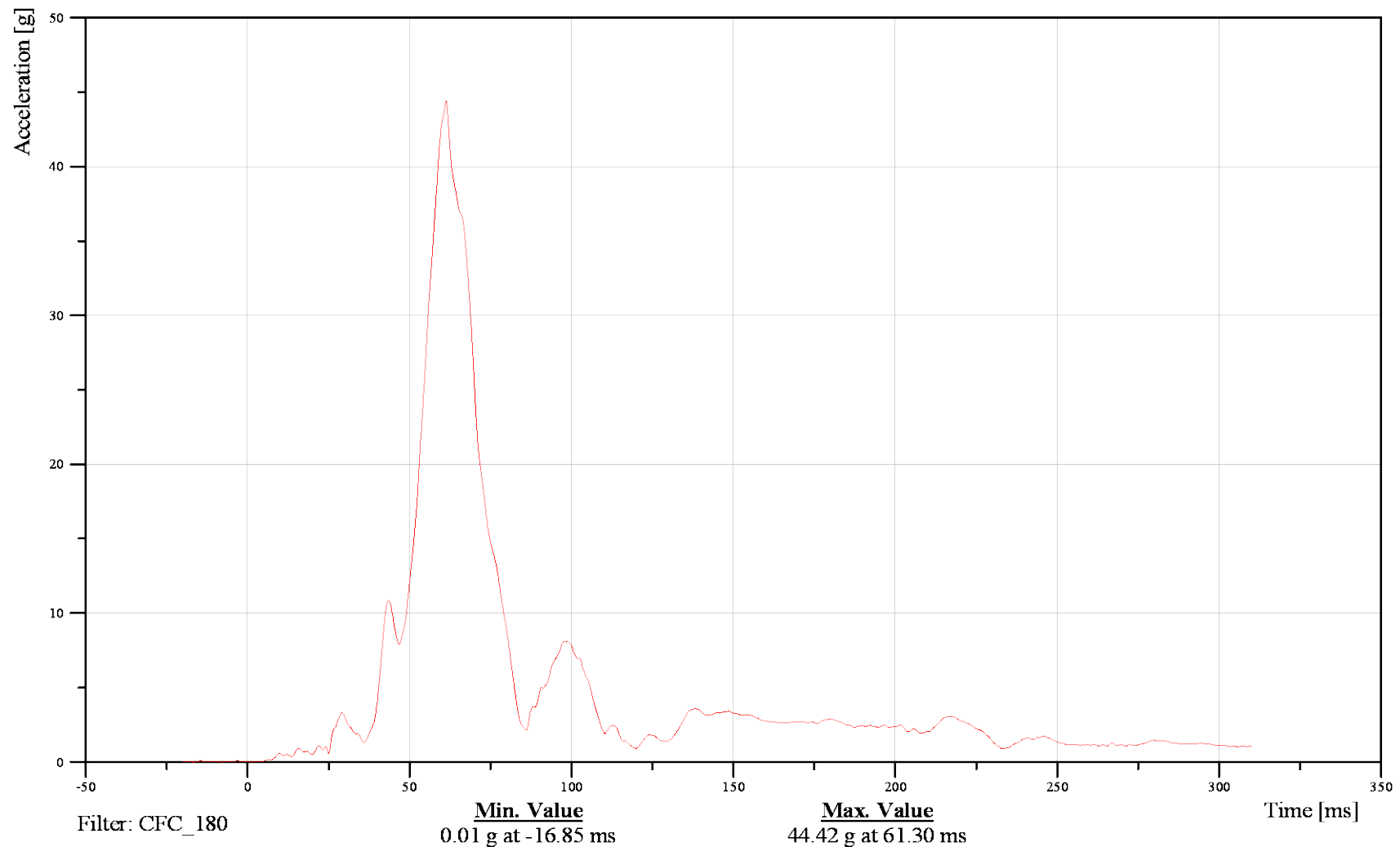
Time: 08:43

Customer: VRTC

14THSP1200WFACRC

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Longitudinal Ax

Date: 06/17/2013

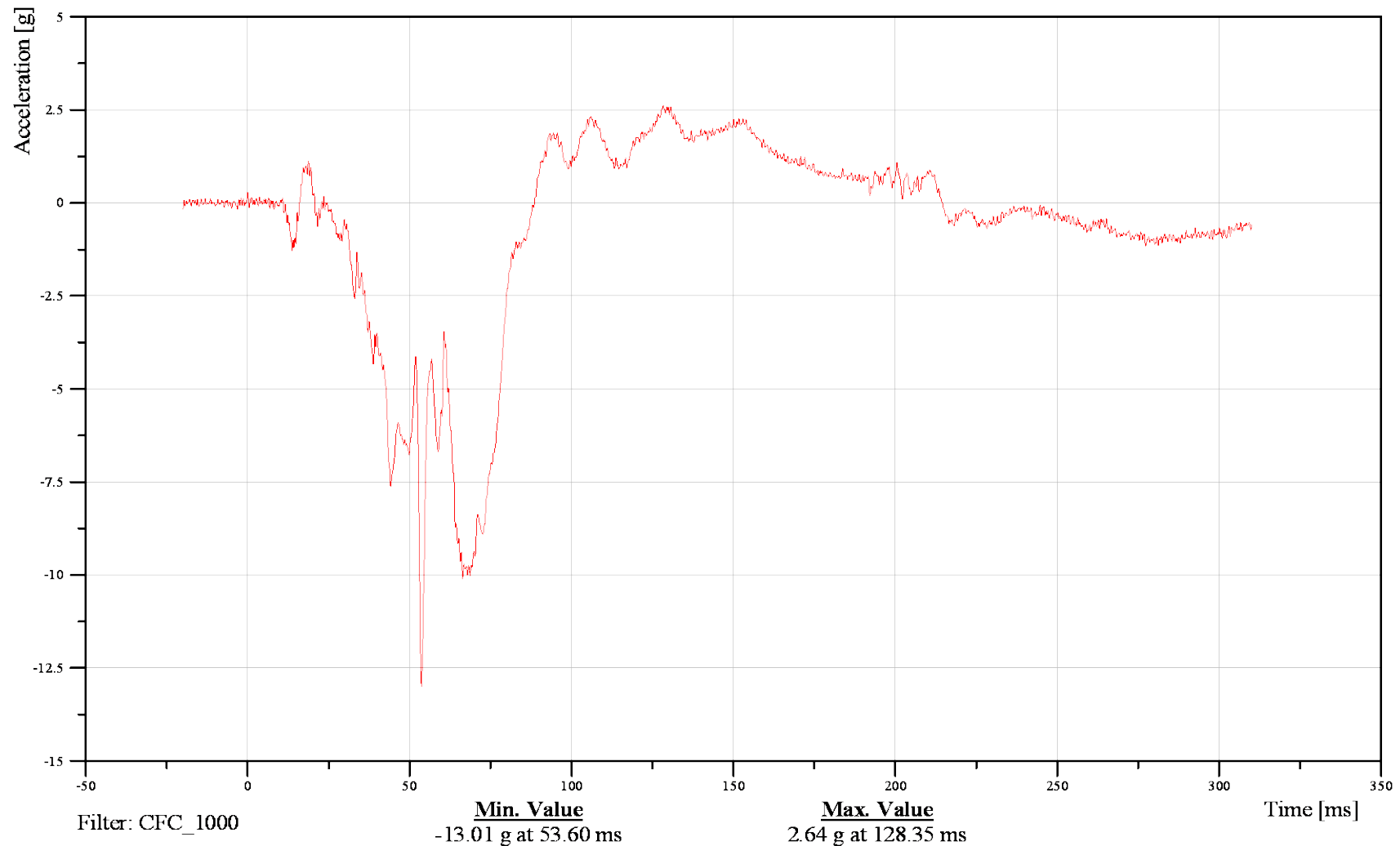
Time: 08:43

Customer: VRTC

14PELV0000WFACXA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Lateral Ay

Date: 06/17/2013

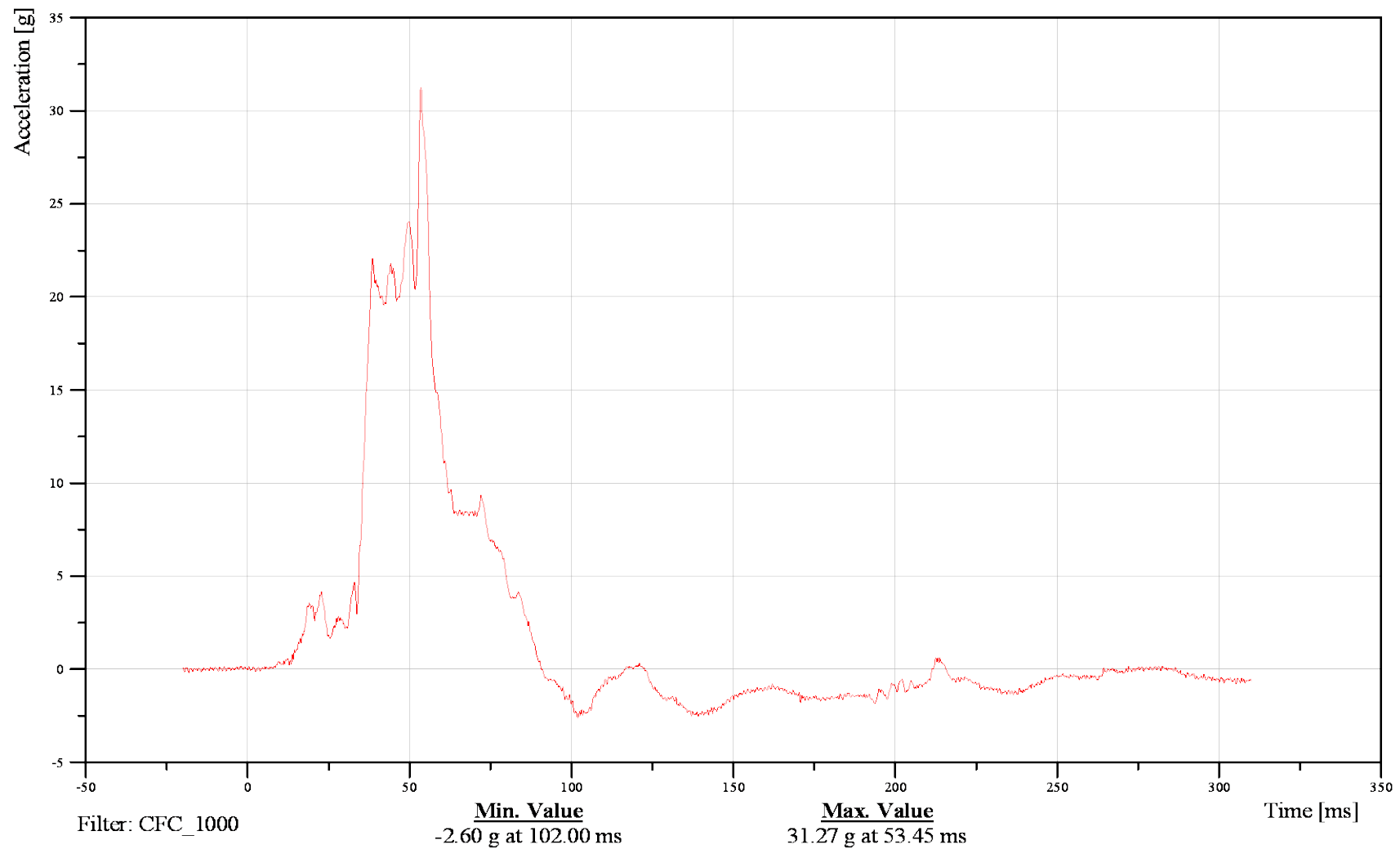
Time: 08:43

Customer: VRTC

14PELV0000WFACYA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Vertical Az

Date: 06/17/2013

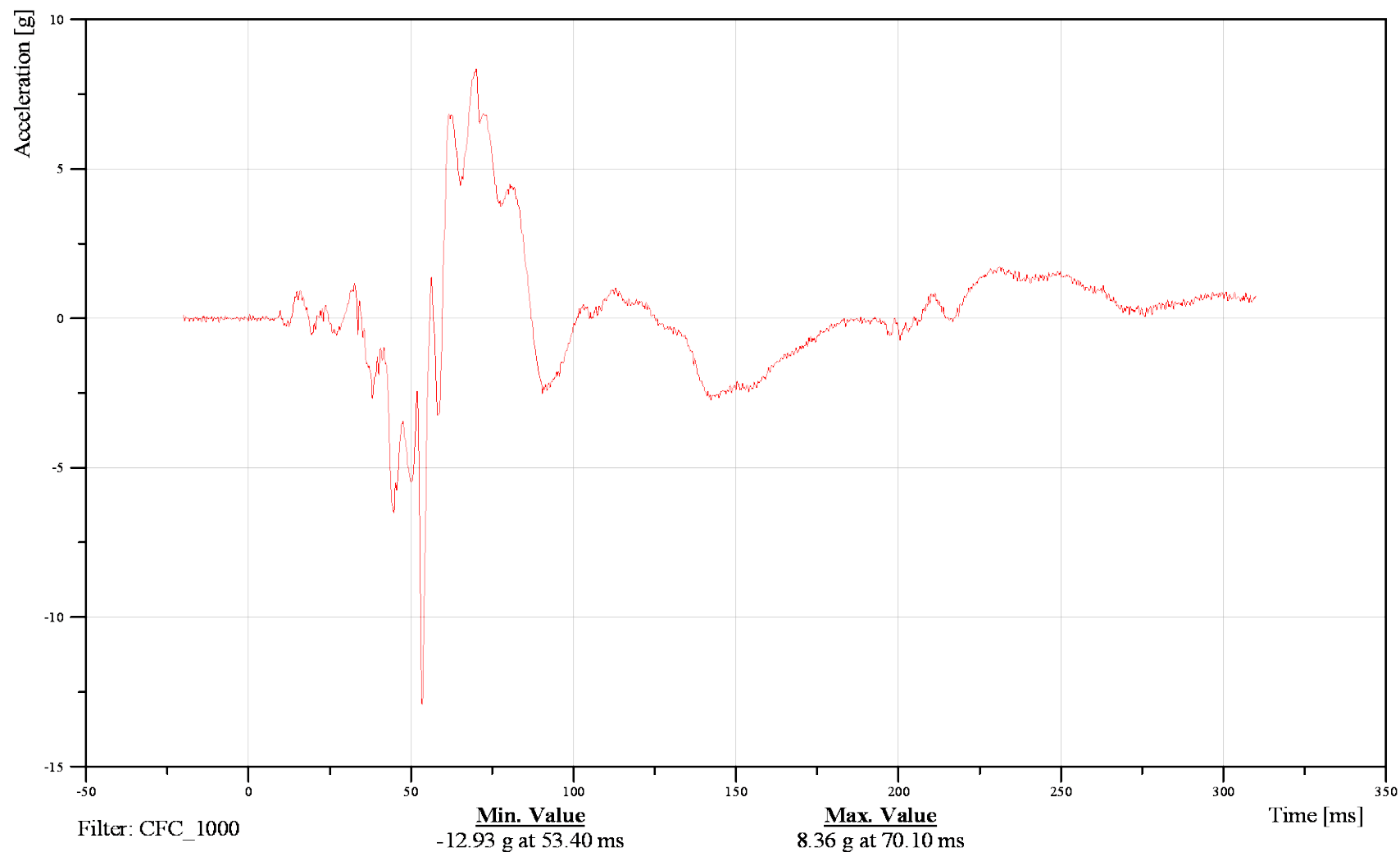
Time: 08:43

Customer: VRTC

14PELV0000WFACZA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis A Resultant

Date: 06/17/2013

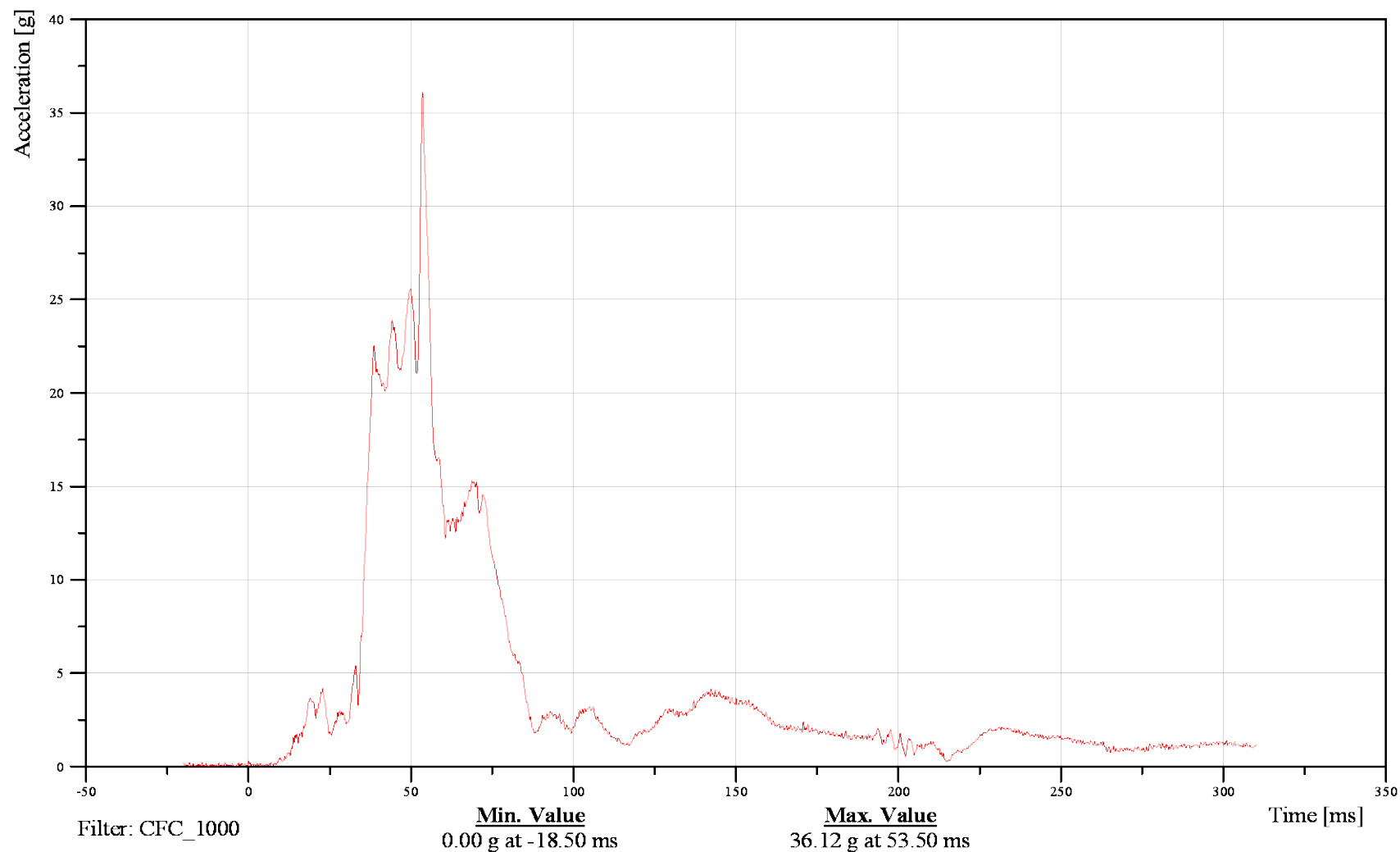
Time: 08:43

Customer: VRTC

14PELV0000WFACRA

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pubic Force Fy

Date: 06/17/2013

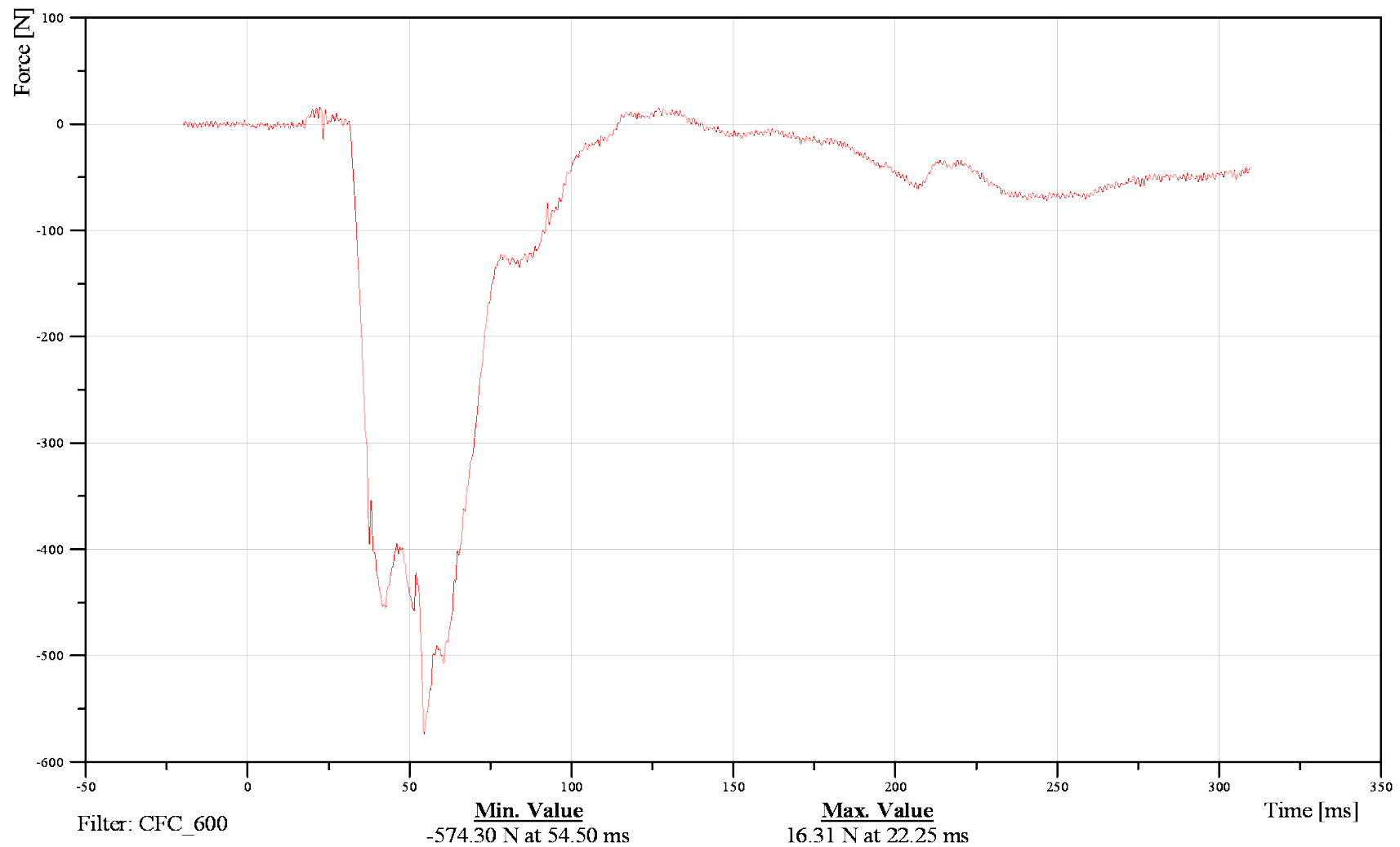
Time: 08:43

Customer: VRTC

14PUBC0000WFFOYB

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle CG (X)

Date: 06/17/2013

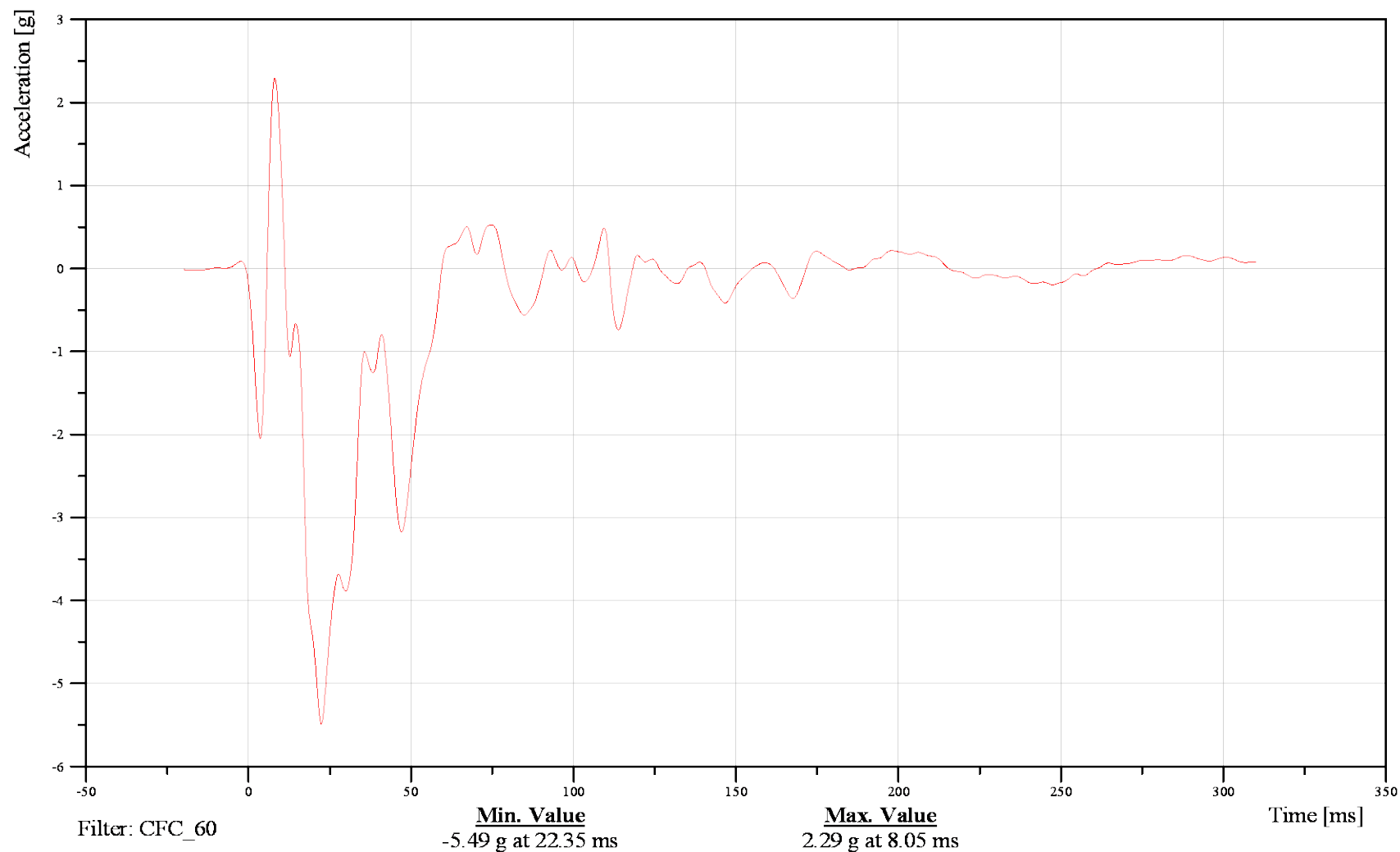
Time: 08:43

Customer: VRTC

11VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle CG (Y)

Date: 06/17/2013

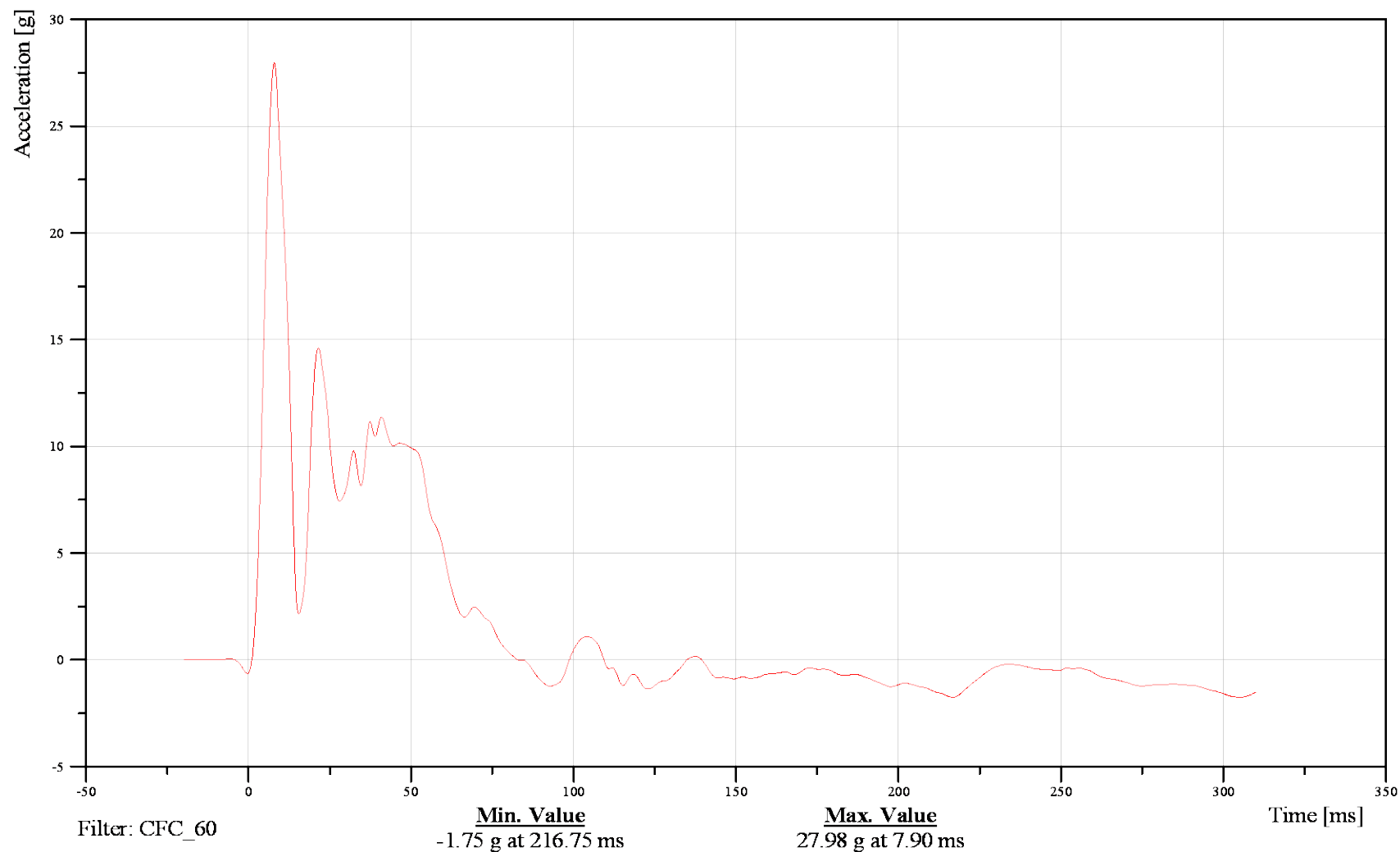
Time: 08:43

Customer: VRTC

11VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle CG (Z)

Date: 06/17/2013

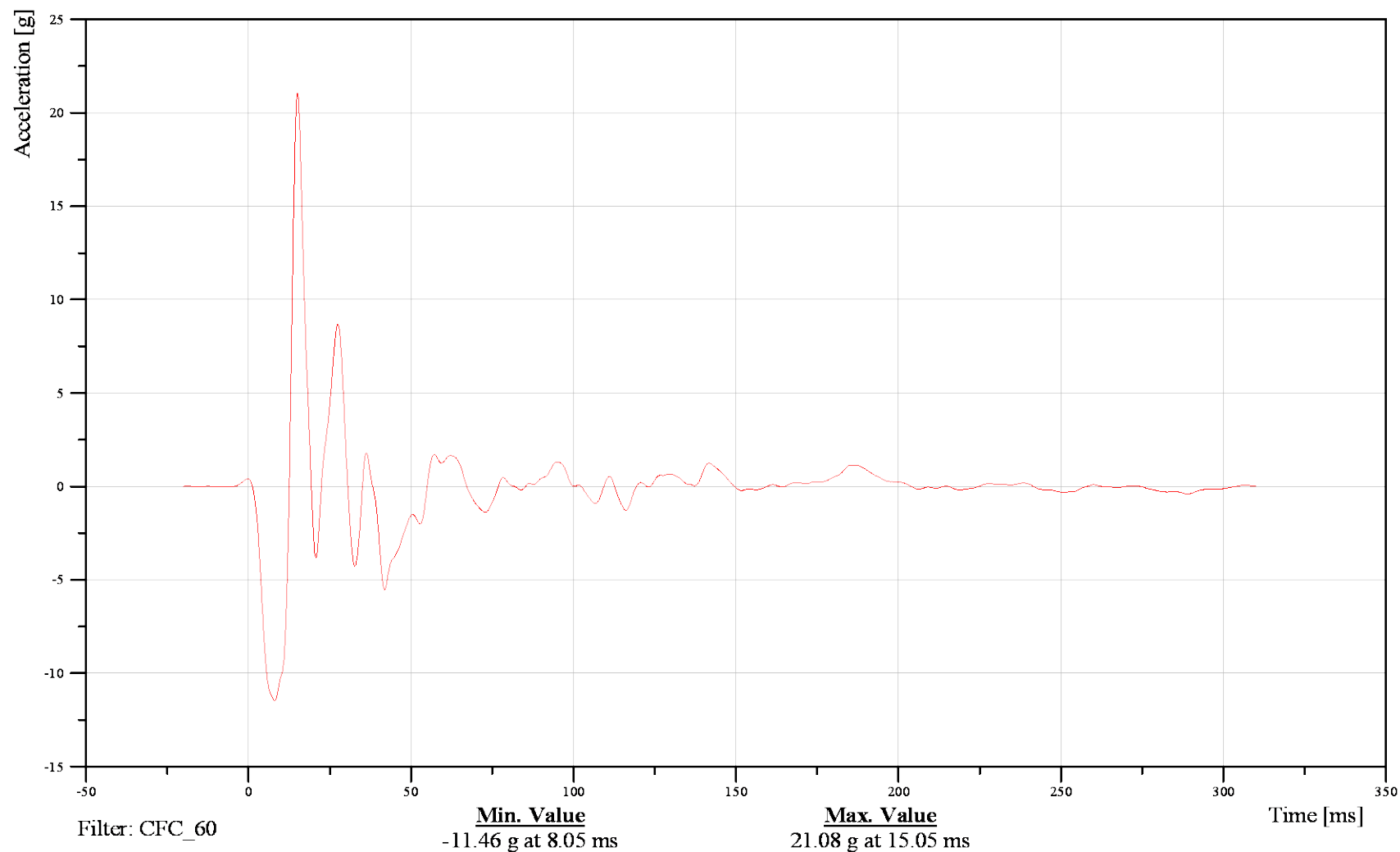
Time: 08:43

Customer: VRTC

11VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle CG Resultant

Date: 06/17/2013

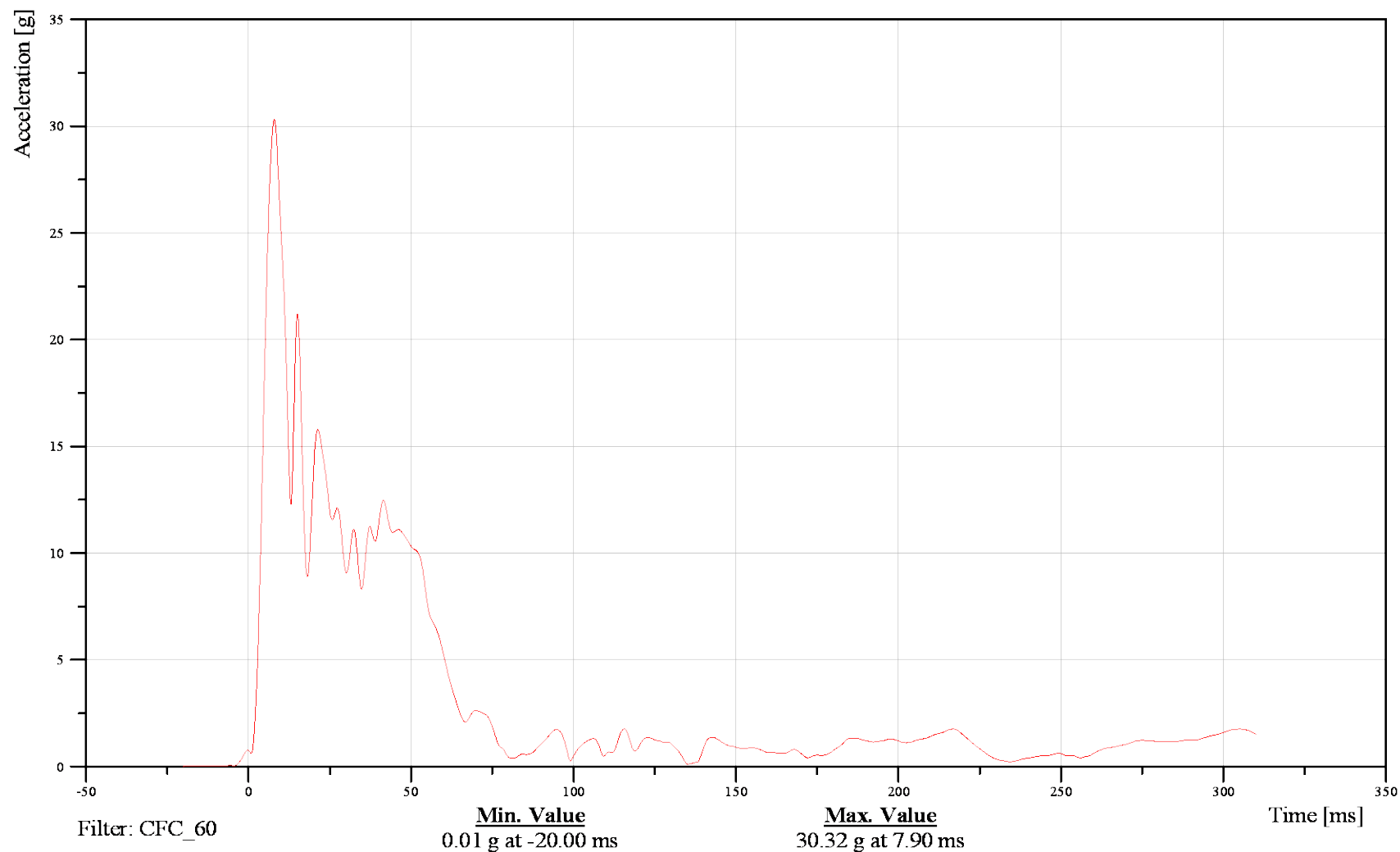
Time: 08:43

Customer: VRTC

11VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Front Sill at Front Seat (X)

Date: 06/17/2013

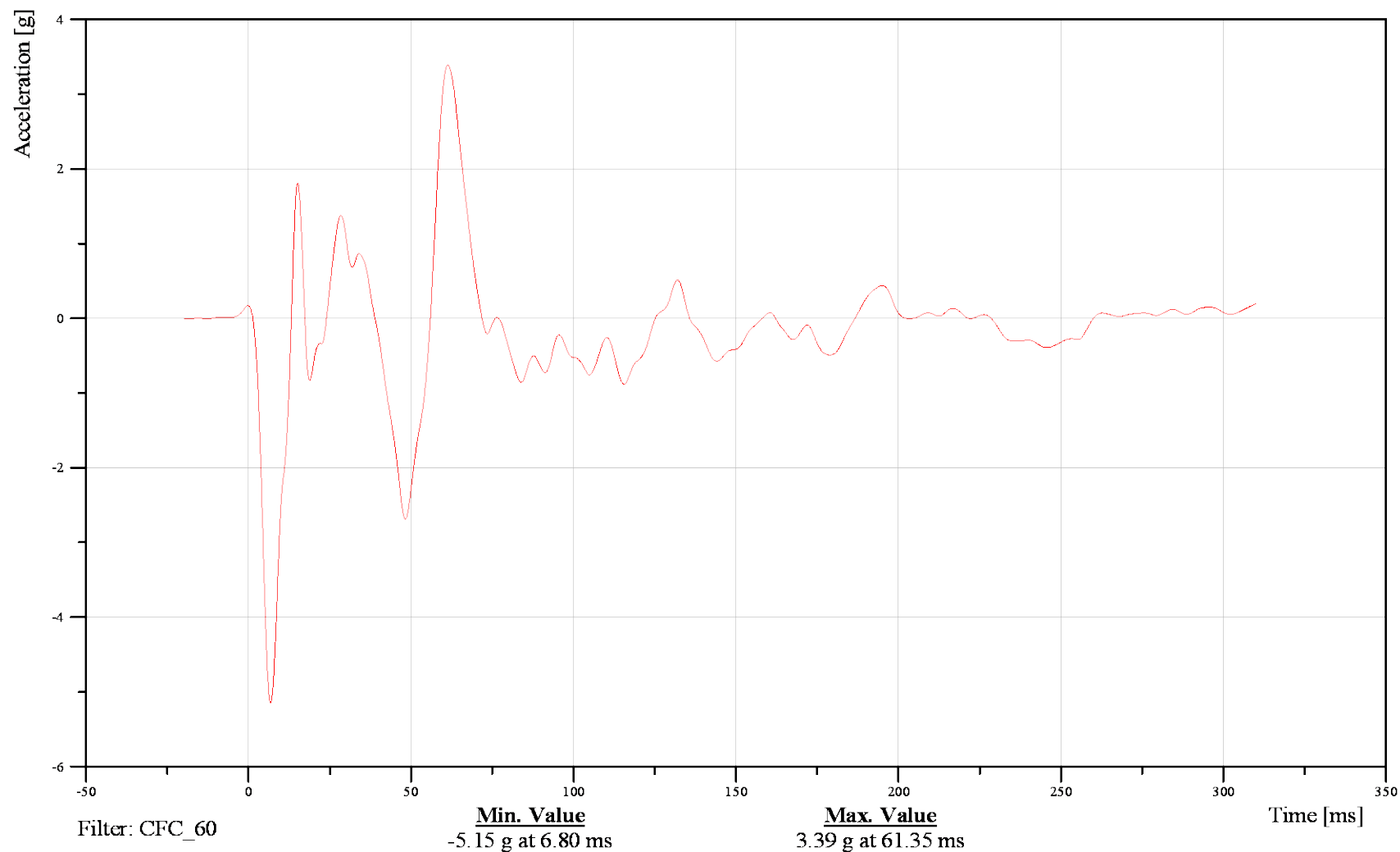
Time: 08:43

Customer: VRTC

11SILBRIFR00ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Front Sill at Front Seat (Y)

Date: 06/17/2013

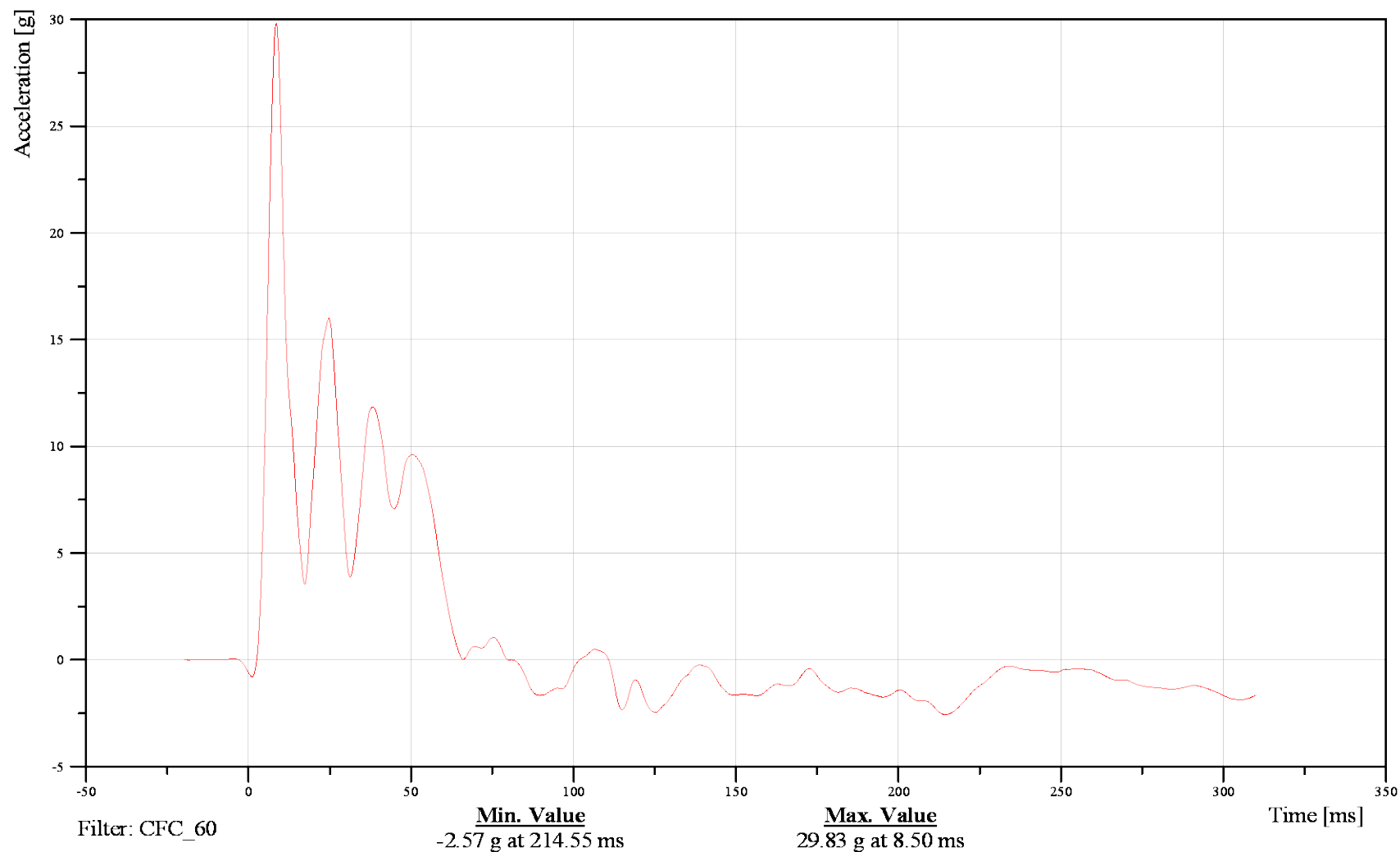
Time: 08:43

Customer: VRTC

11SILBRIFR00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Front Sill at Front Seat (Z)

Date: 06/17/2013

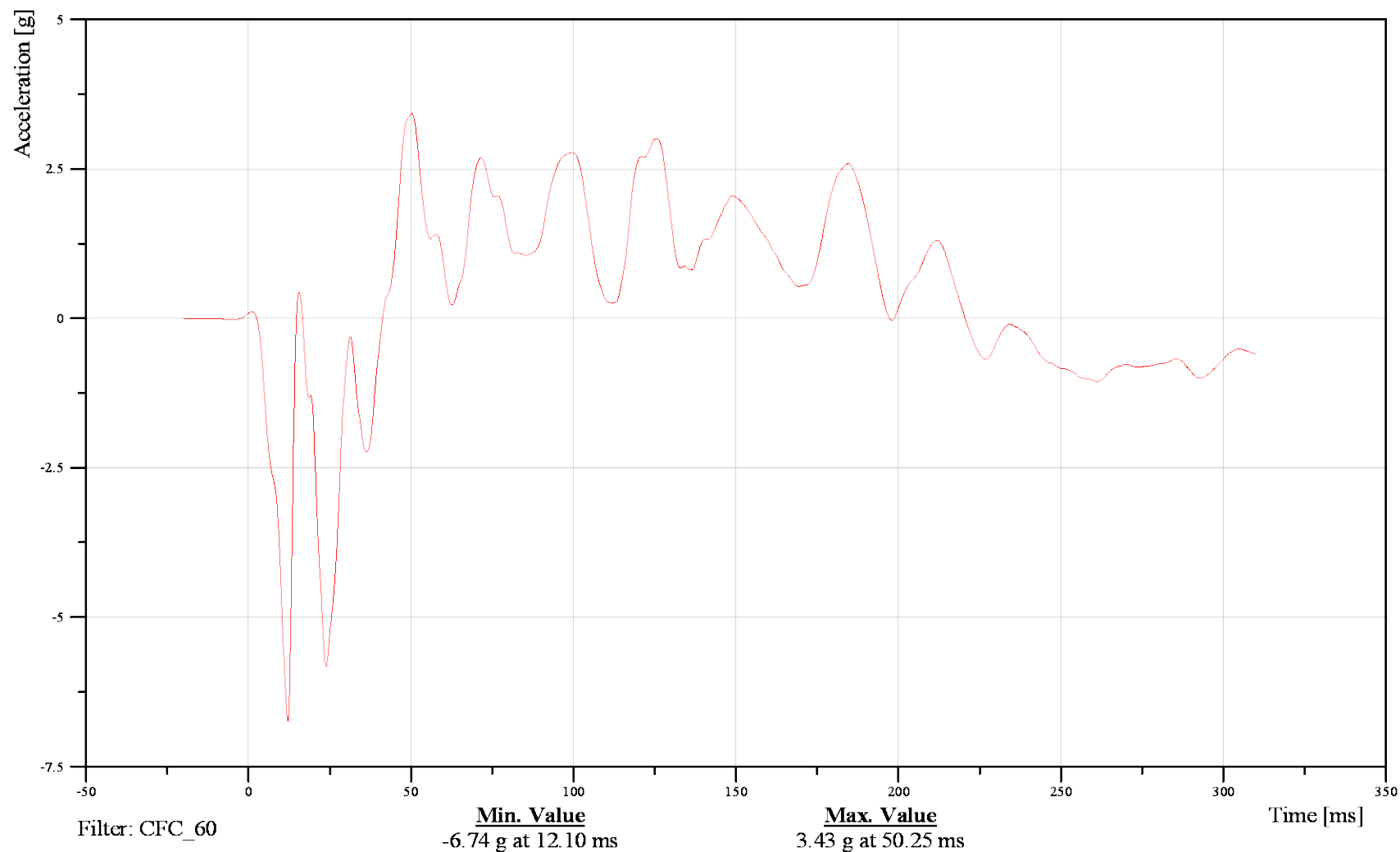
Time: 08:43

Customer: VRTC

11SILBRIFR00ACZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Front Sill at Front Seat Resultant

Date: 06/17/2013

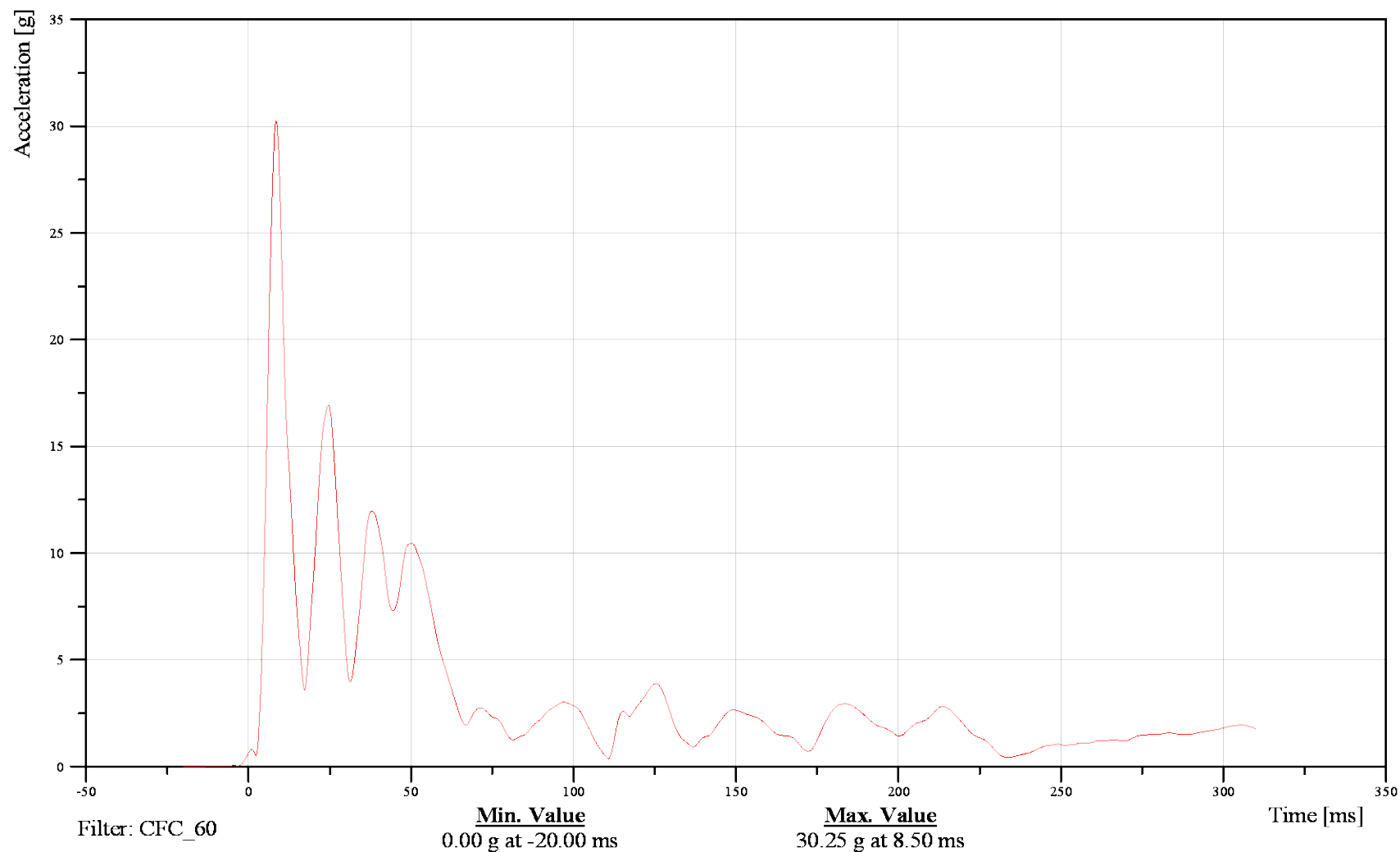
Time: 08:43

Customer: VRTC

11SILBRIFR00ACRD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Rear Sill at Rear Seat (X)

Date: 06/17/2013

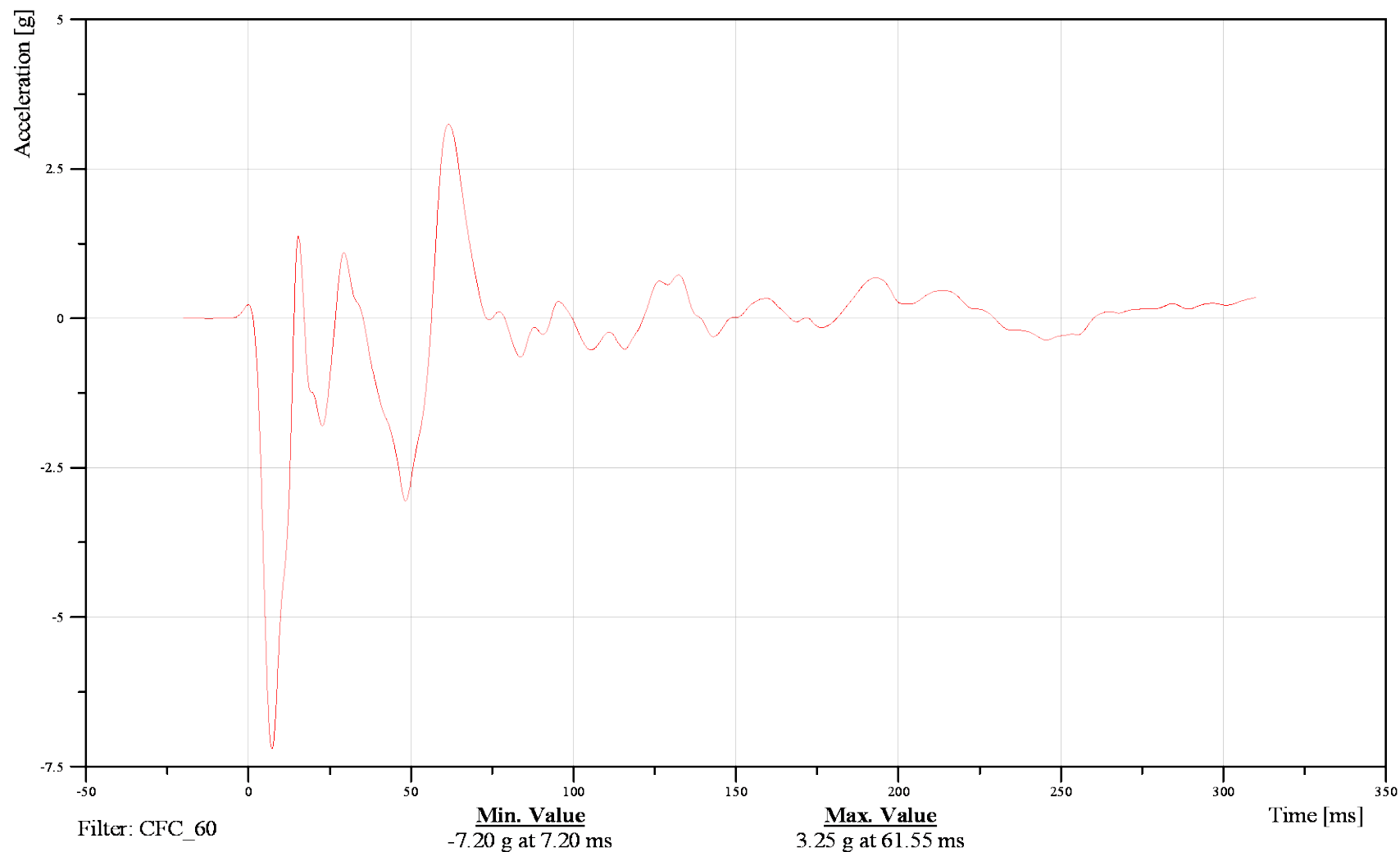
Time: 08:43

Customer: VRTC

11SILBRIRE00ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Rear Sill at Rear Seat (Y)

Date: 06/17/2013

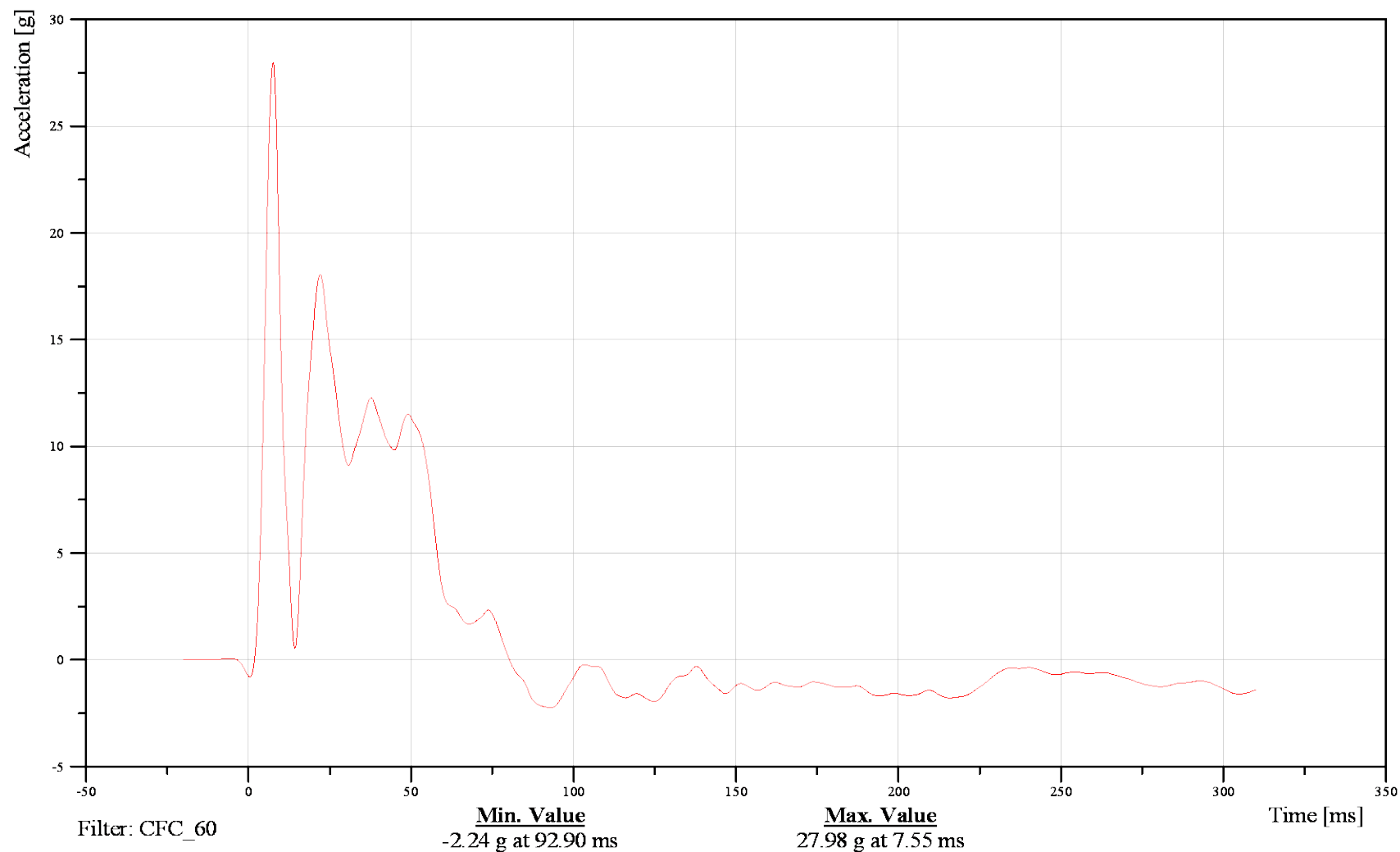
Time: 08:43

Customer: VRTC

11SILBRIRE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Rear Sill at Rear Seat (Z)

Date: 06/17/2013

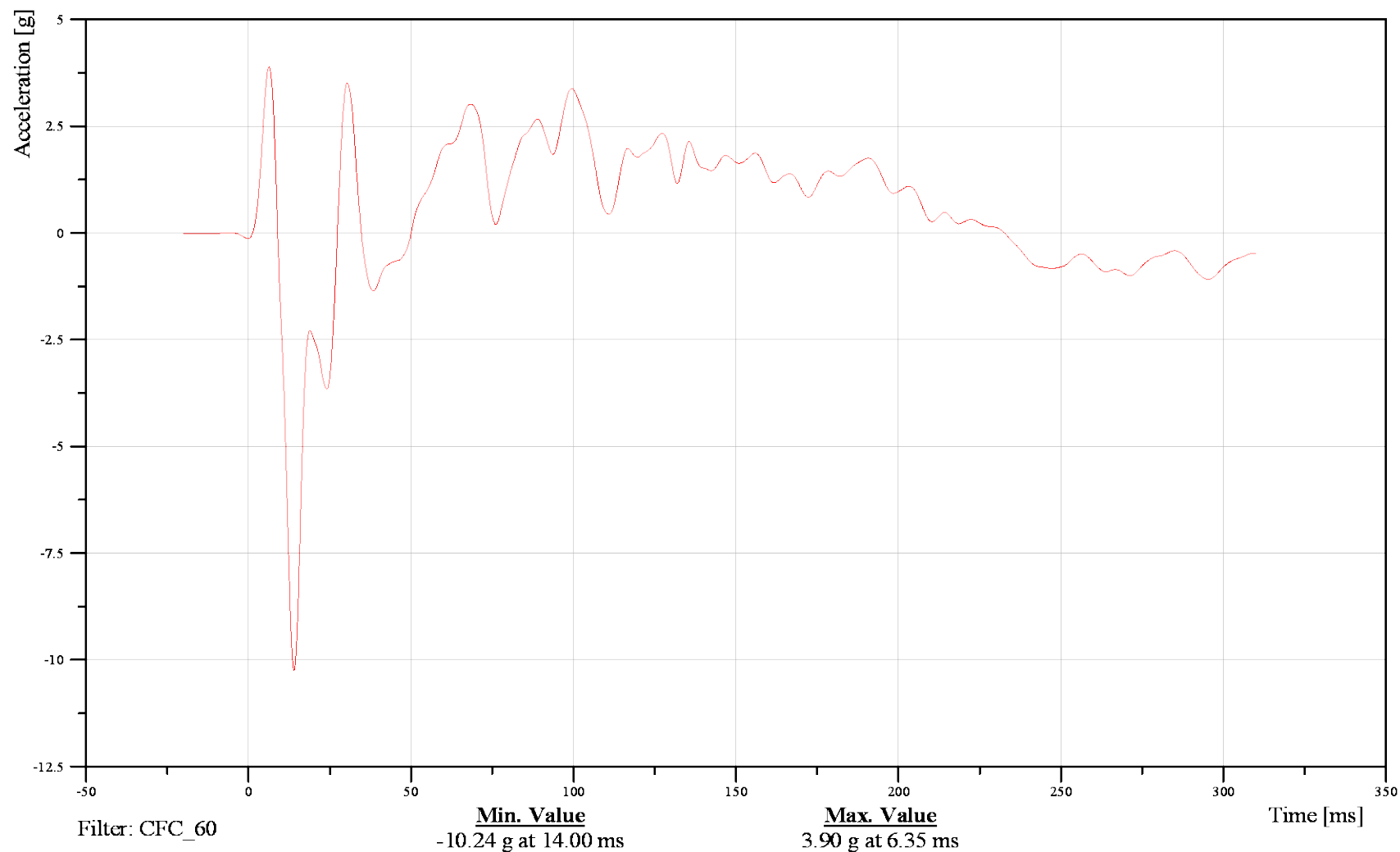
Time: 08:43

Customer: VRTC

11SILBRIRE00ACZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Right Rear Sill at Rear Seat Resultant

Date: 06/17/2013

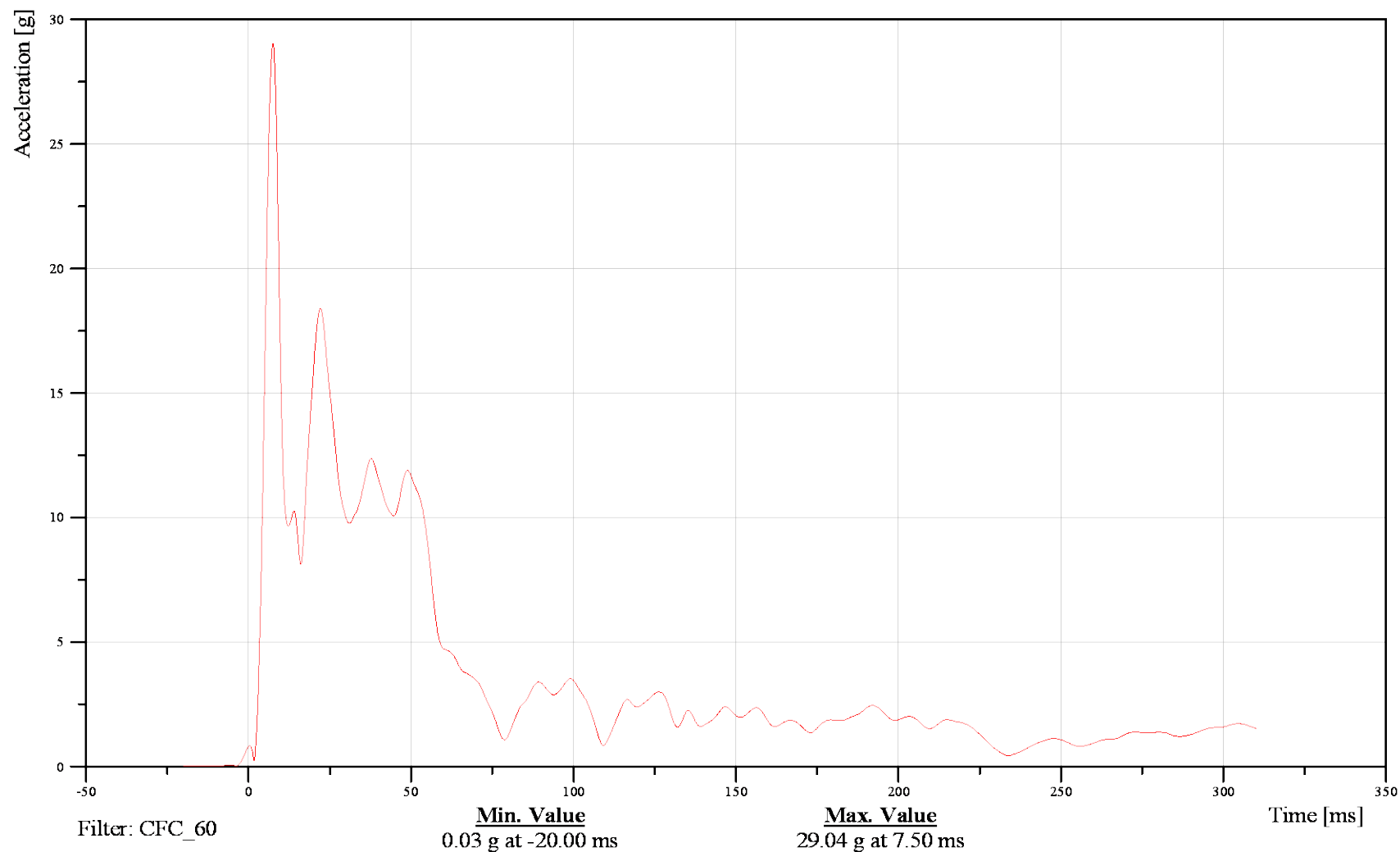
Time: 08:43

Customer: VRTC

11SILBRIRE00ACRD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Side Sill at Front Seat (Y)

Date: 06/17/2013

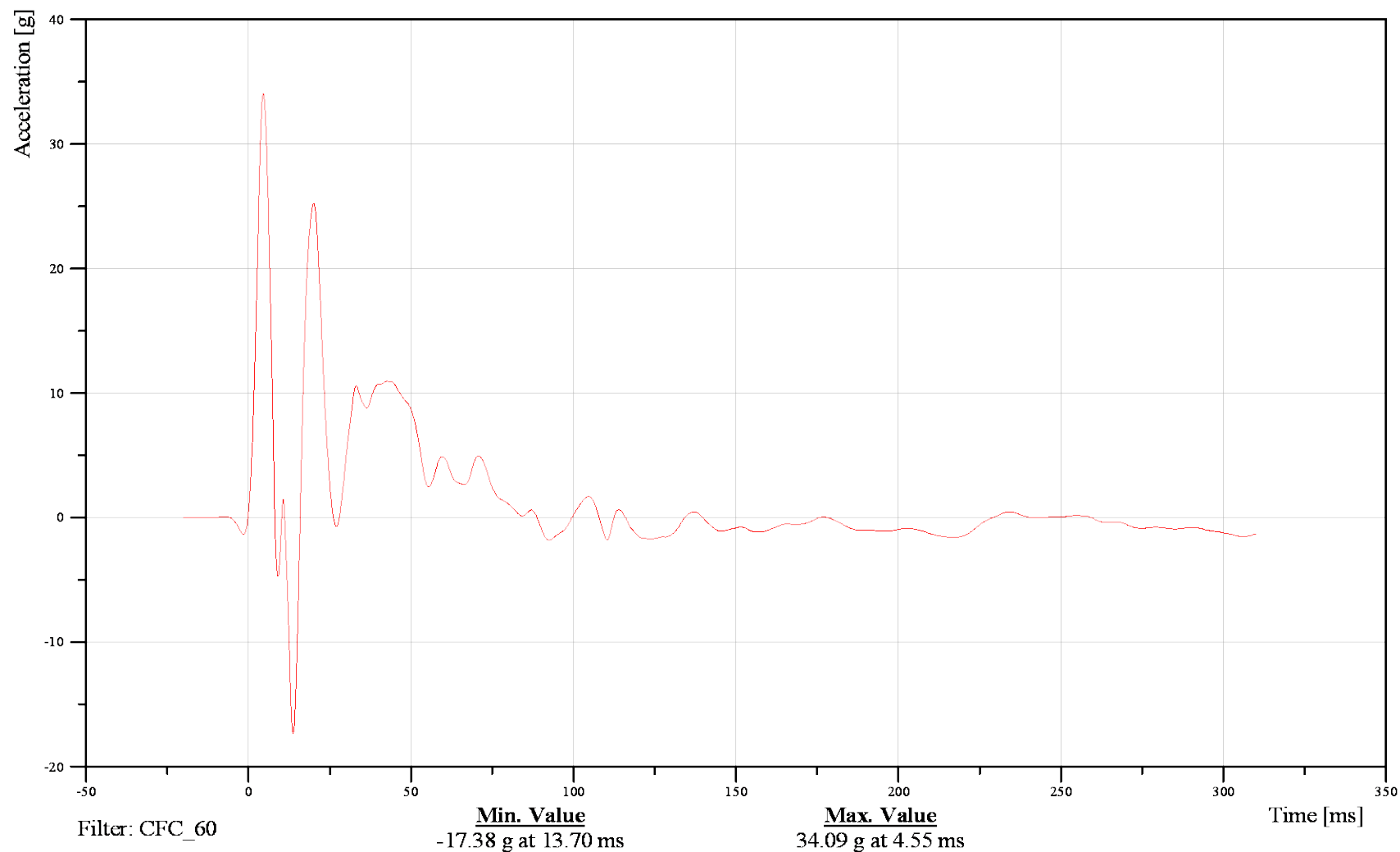
Time: 08:43

Customer: VRTC

11SILBLEFR00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Side Sill at Rear Seat (Y)

Date: 06/17/2013

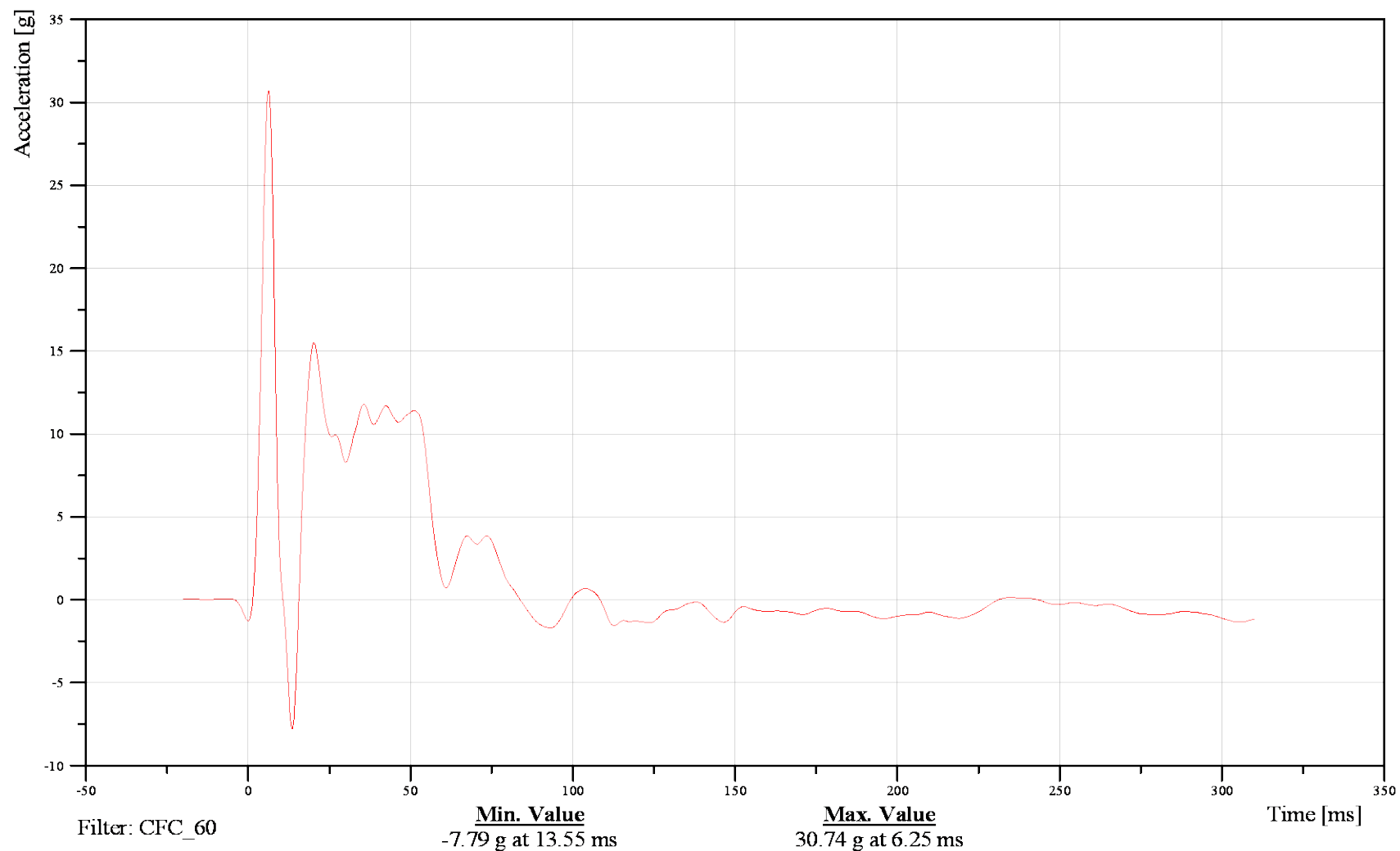
Time: 08:43

Customer: VRTC

11SILBLERE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Lower A Post (Y)

Date: 06/17/2013

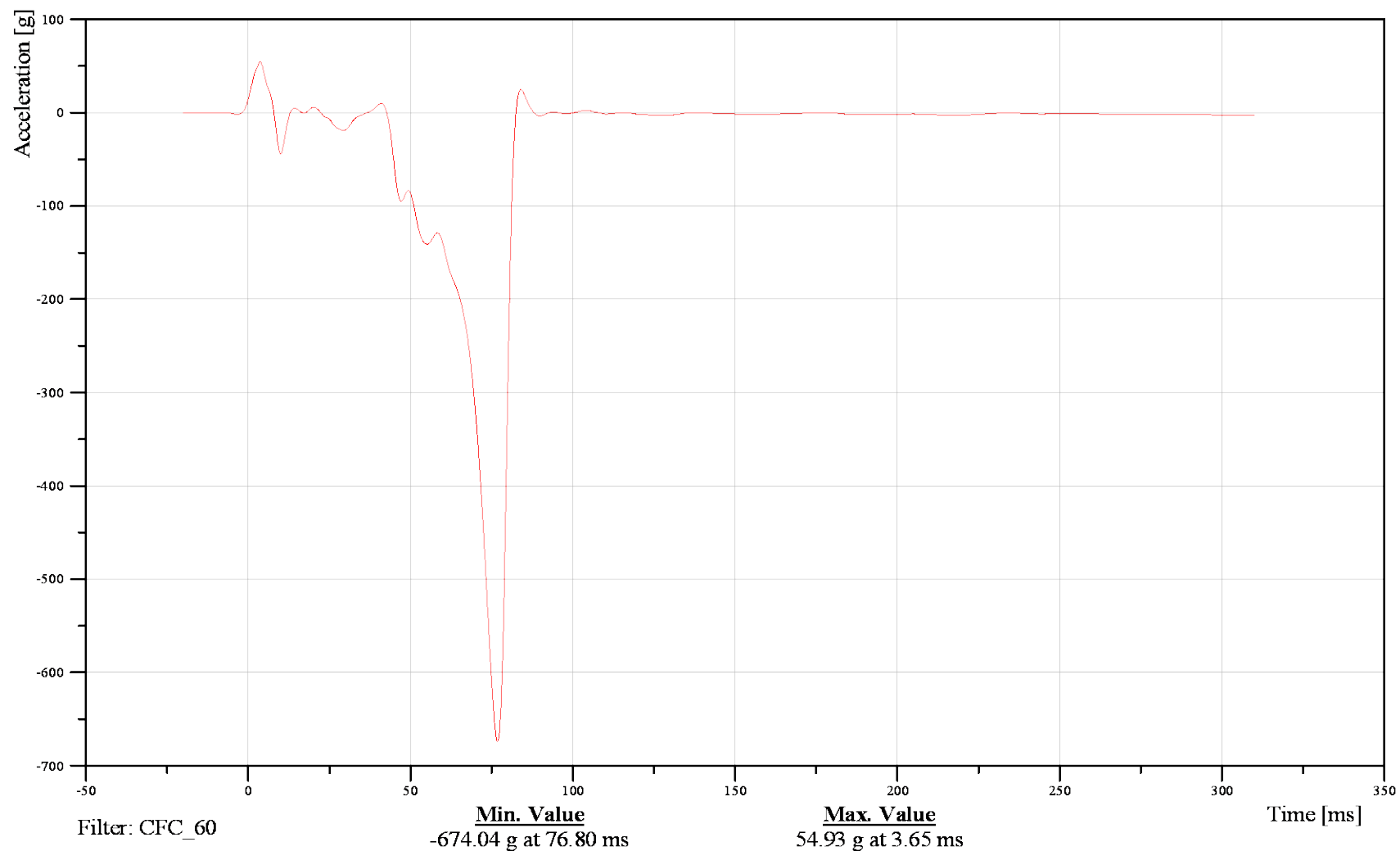
Time: 08:43

Customer: VRTC

11APILO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Date: 06/17/2013

Time: 08:43

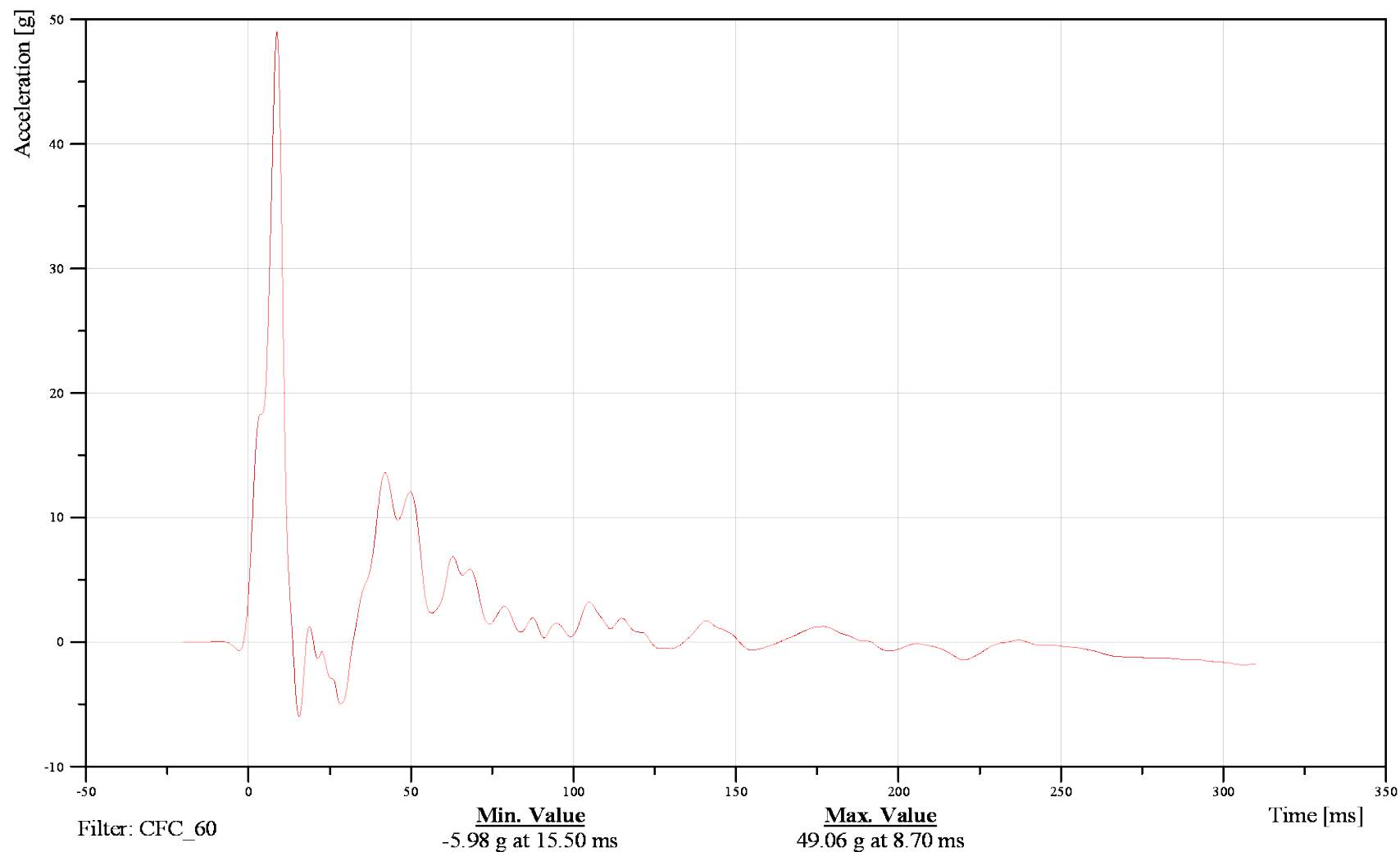
Left Middle A-Post (Y)

Customer: VRTC

11APILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Lower B Post (Y)

Date: 06/17/2013

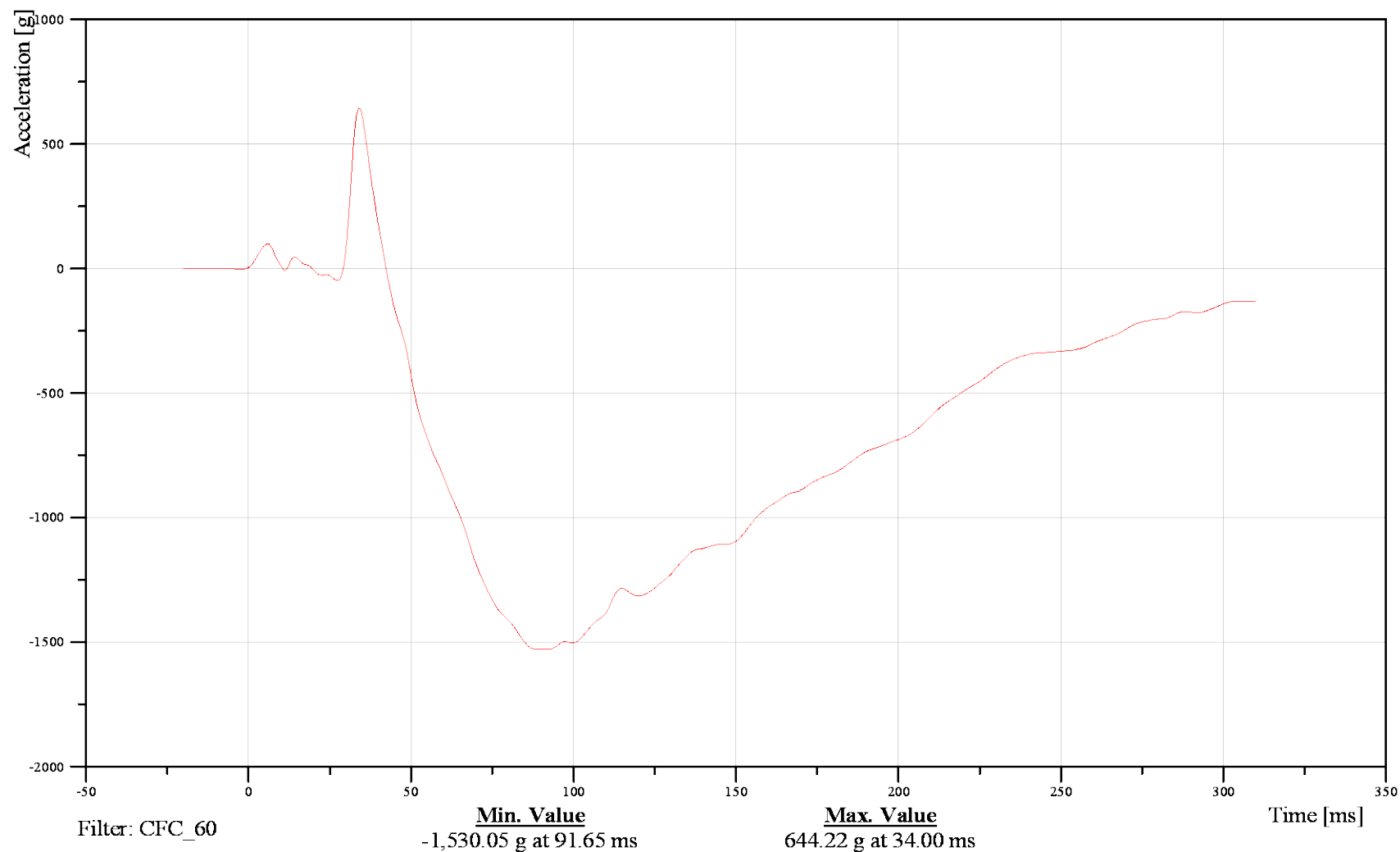
Time: 08:43

Customer: VRTC

11BPILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Middle B Post (Y)

Date: 06/17/2013

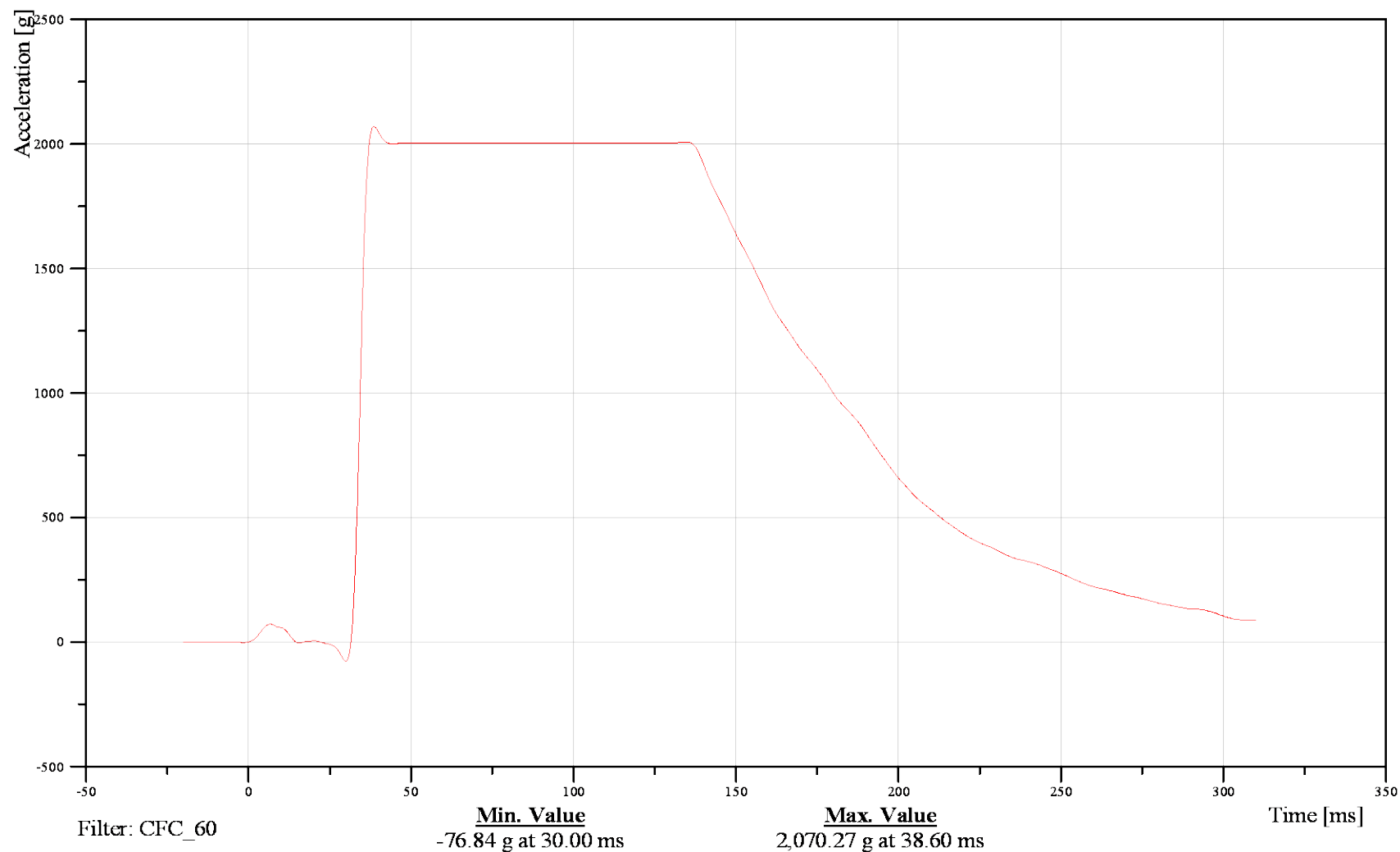
Time: 08:43

Customer: VRTC

11BPILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Front Seat Track (Y)

Date: 06/17/2013

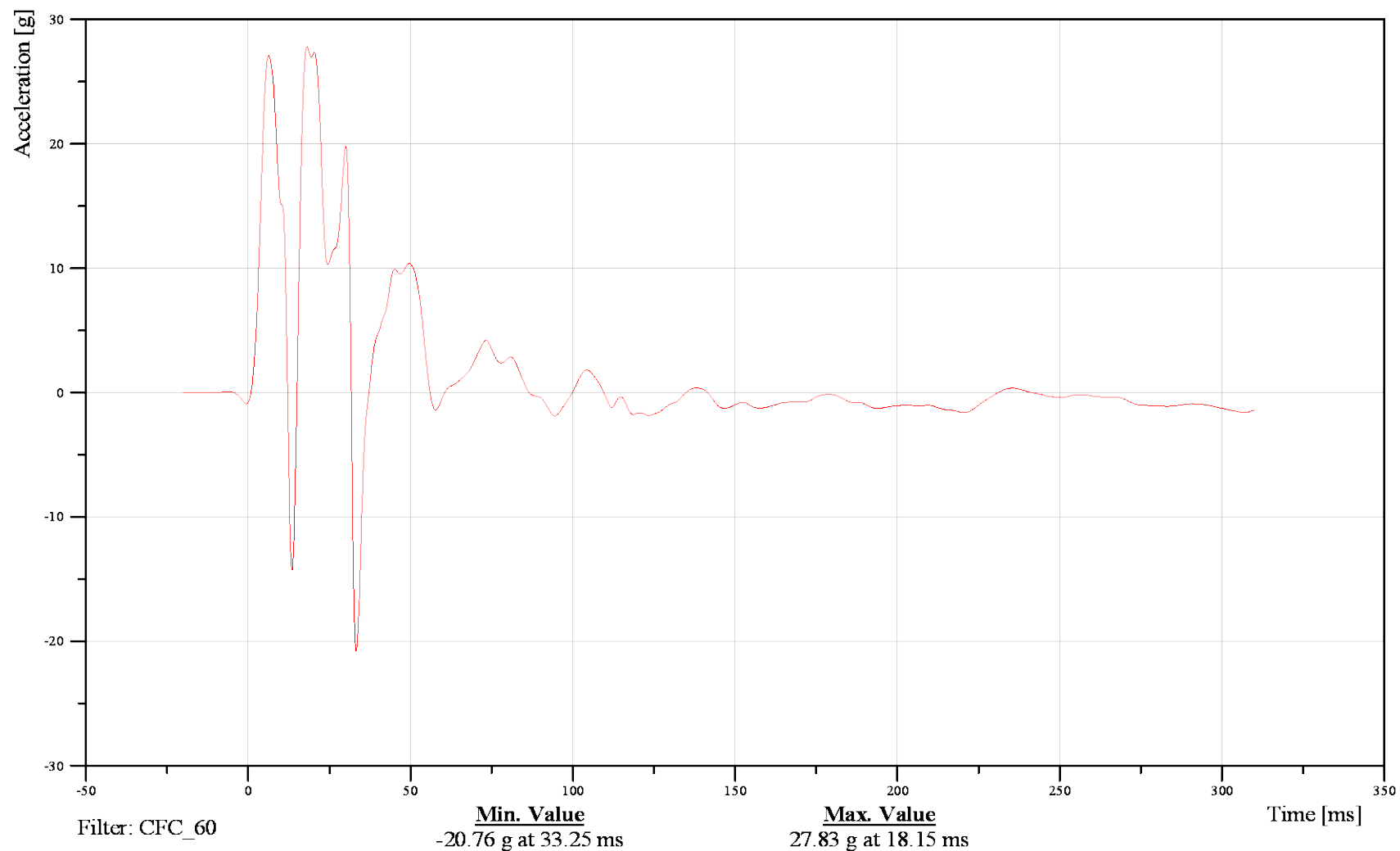
Time: 08:43

Customer: VRTC

11SETR000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

LEFT REAR SEAT STRUCTURE AY

Date: 06/17/2013

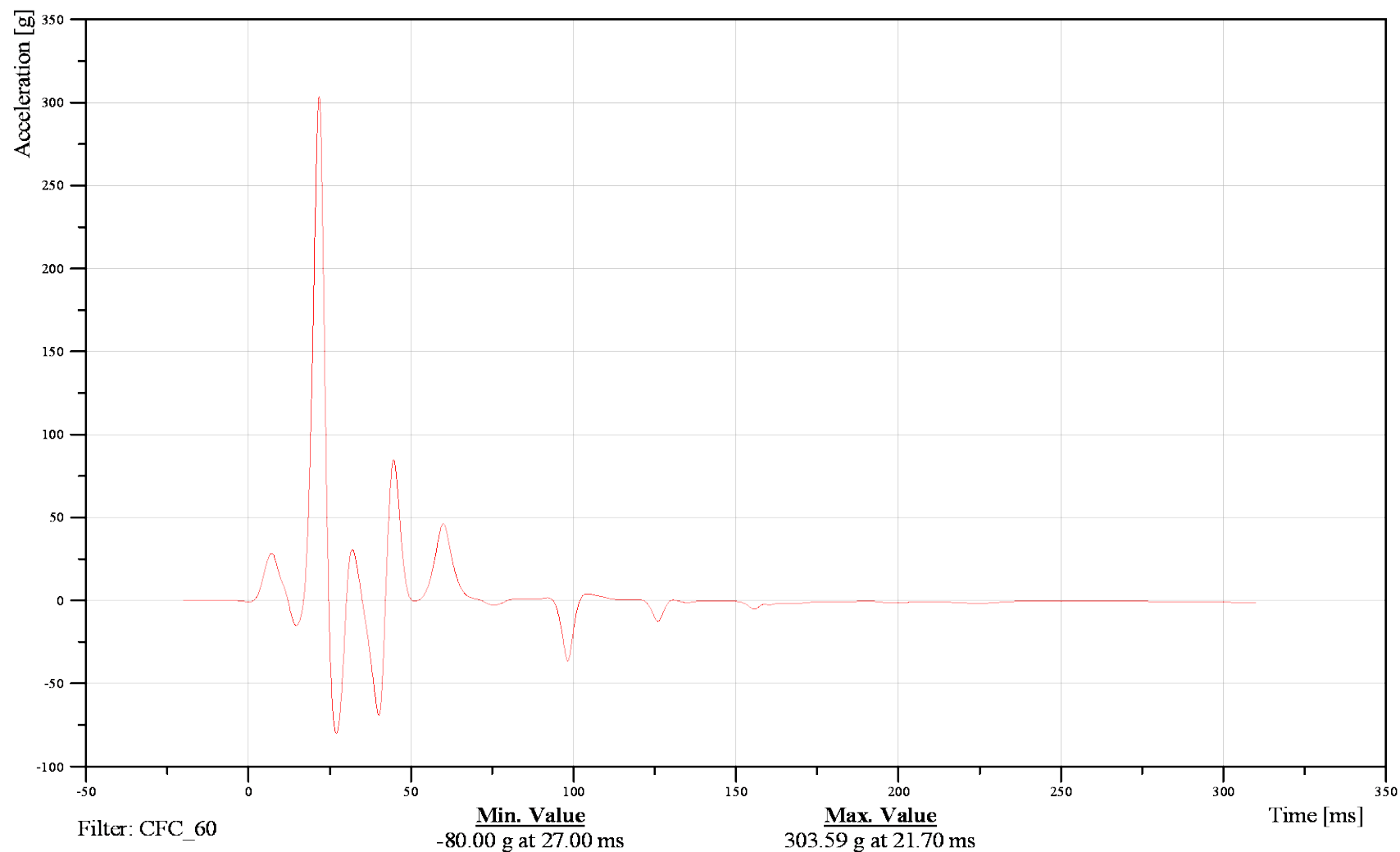
Time: 08:43

Customer: VRTC

11SETRLERE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

RIGHT REAR OCCUPANT COMPARTMENT AY

Date: 06/17/2013

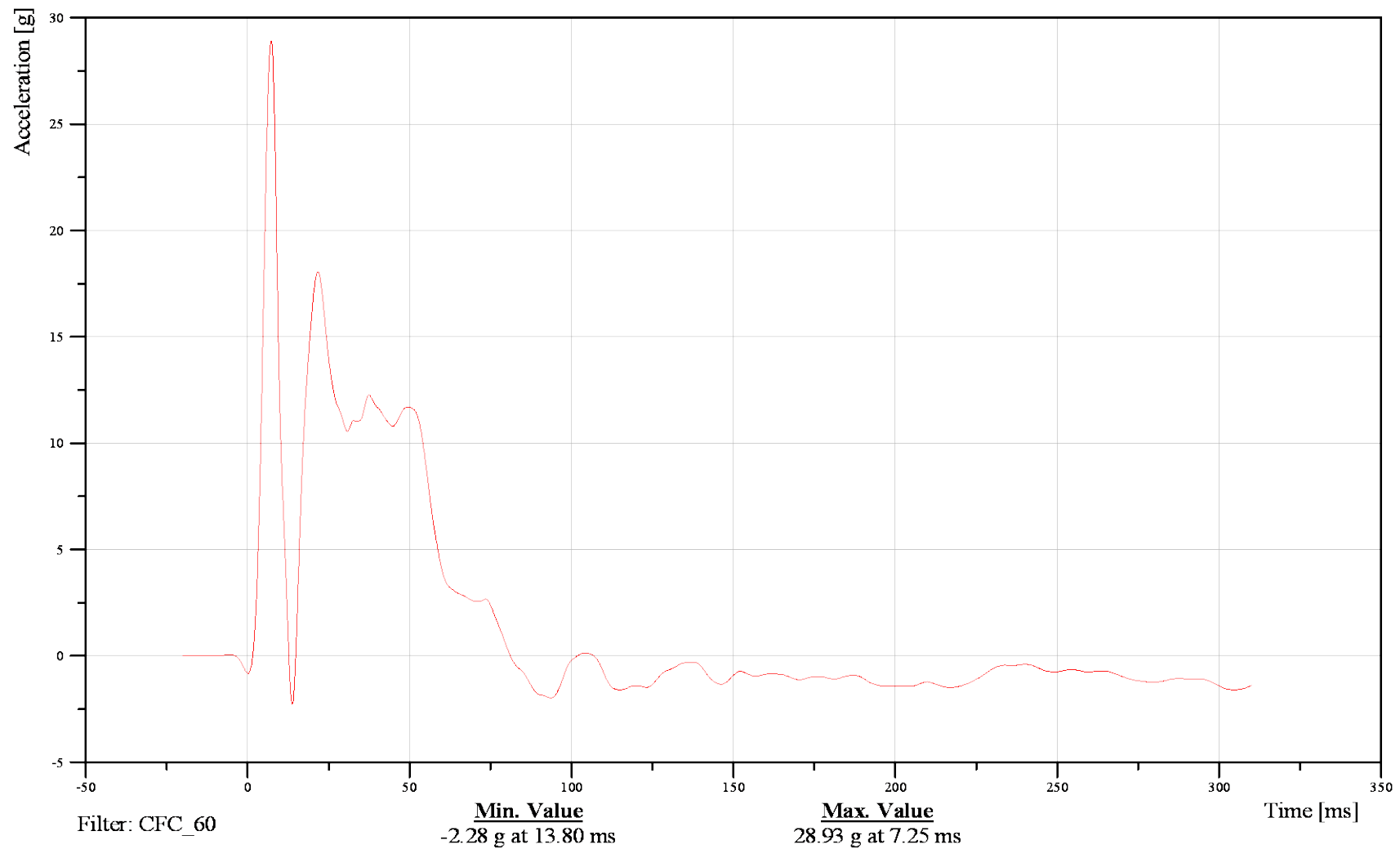
Time: 08:43

Customer: VRTC

11VEHCRIRE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

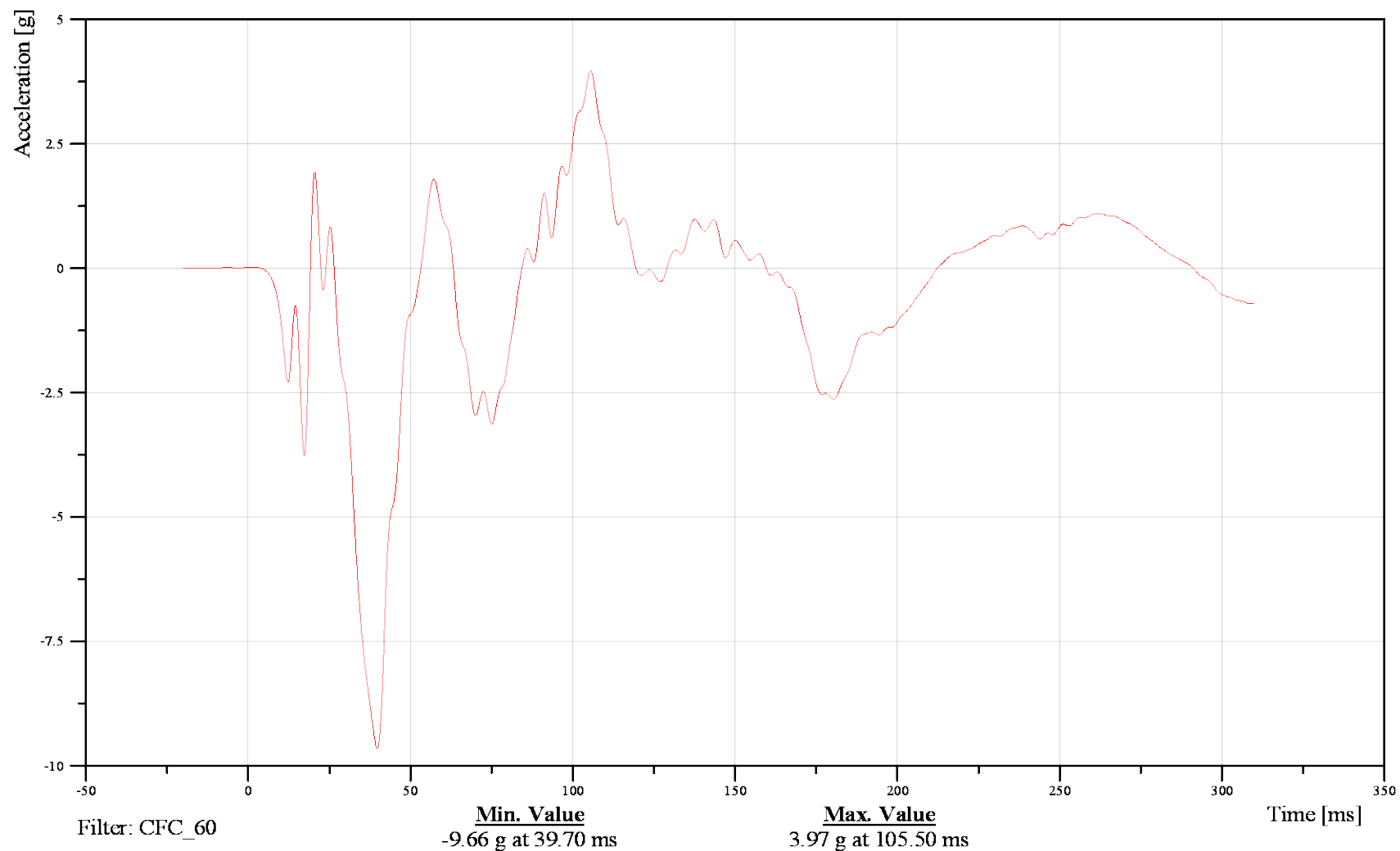
ENGINE BLOCK AX

Date: 06/17/2013
Time: 08:43

Customer: VRTC

11ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

ENGINE BLOCK AY

Date: 06/17/2013

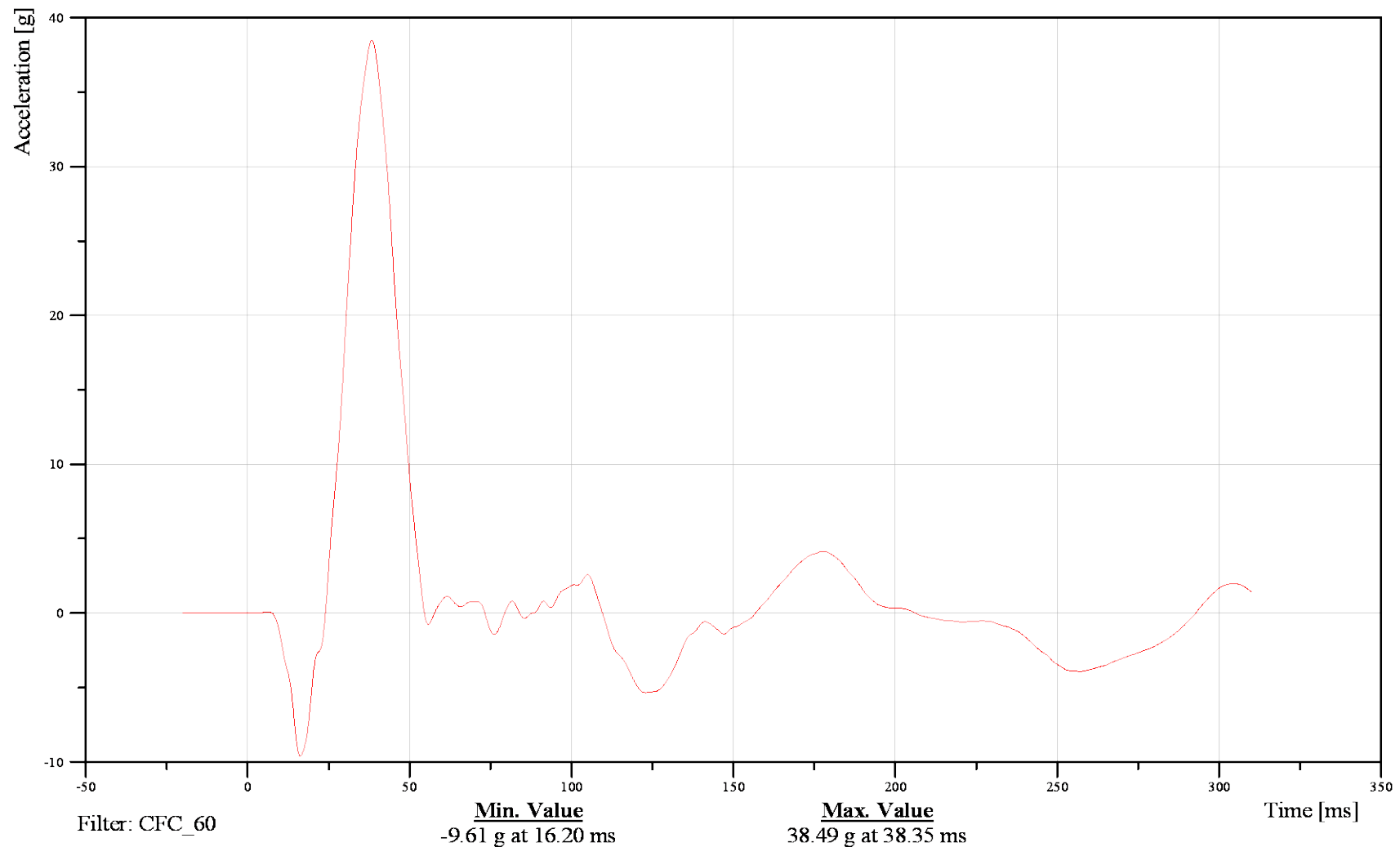
Time: 08:43

Customer: VRTC

11ENGNTTP0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Rear Floor Pan Above Axle (X)

Date: 06/17/2013

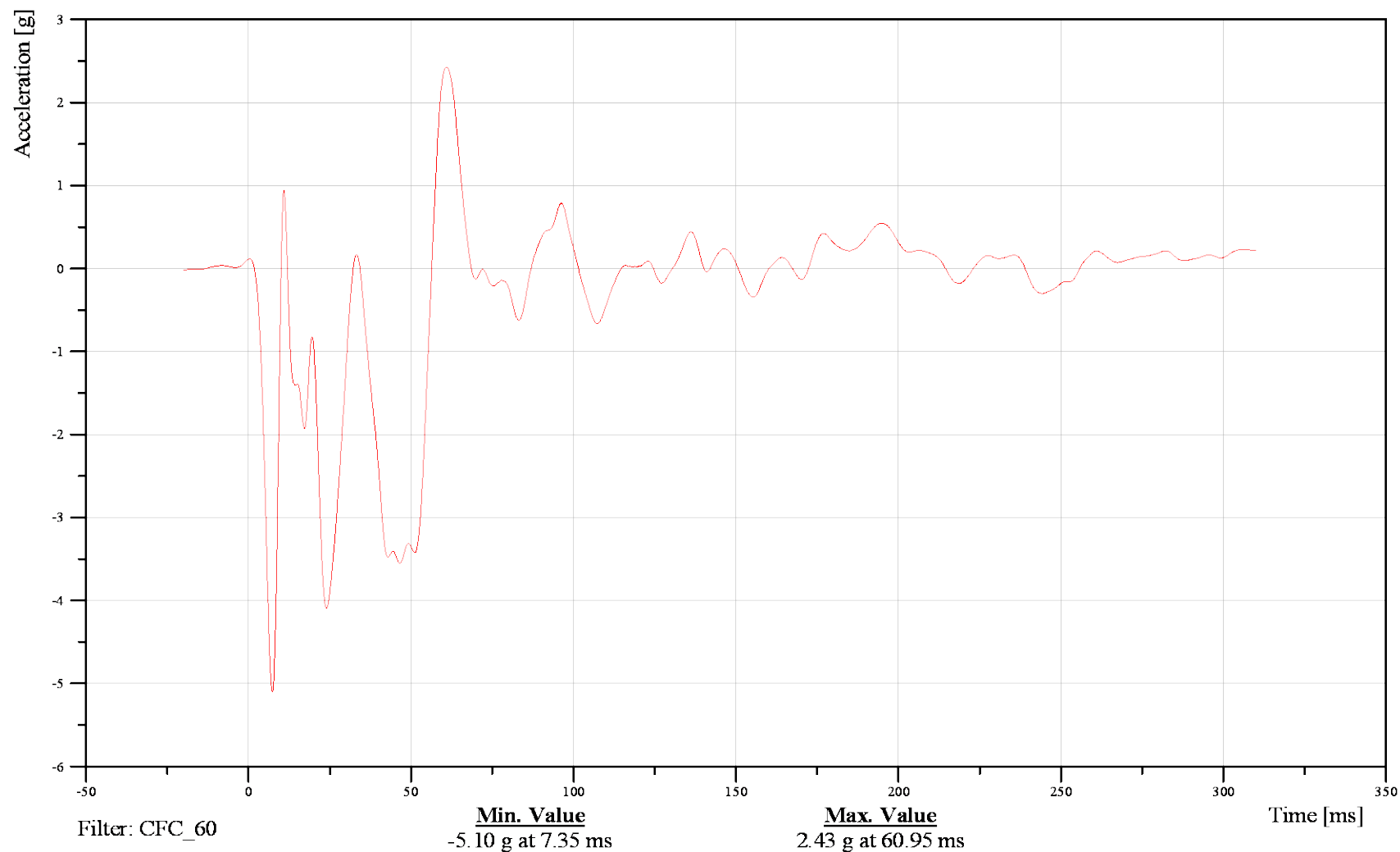
Time: 08:43

Customer: VRTC

11FORA000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Rear Floor Pan Above Axle (Y)

Date: 06/17/2013

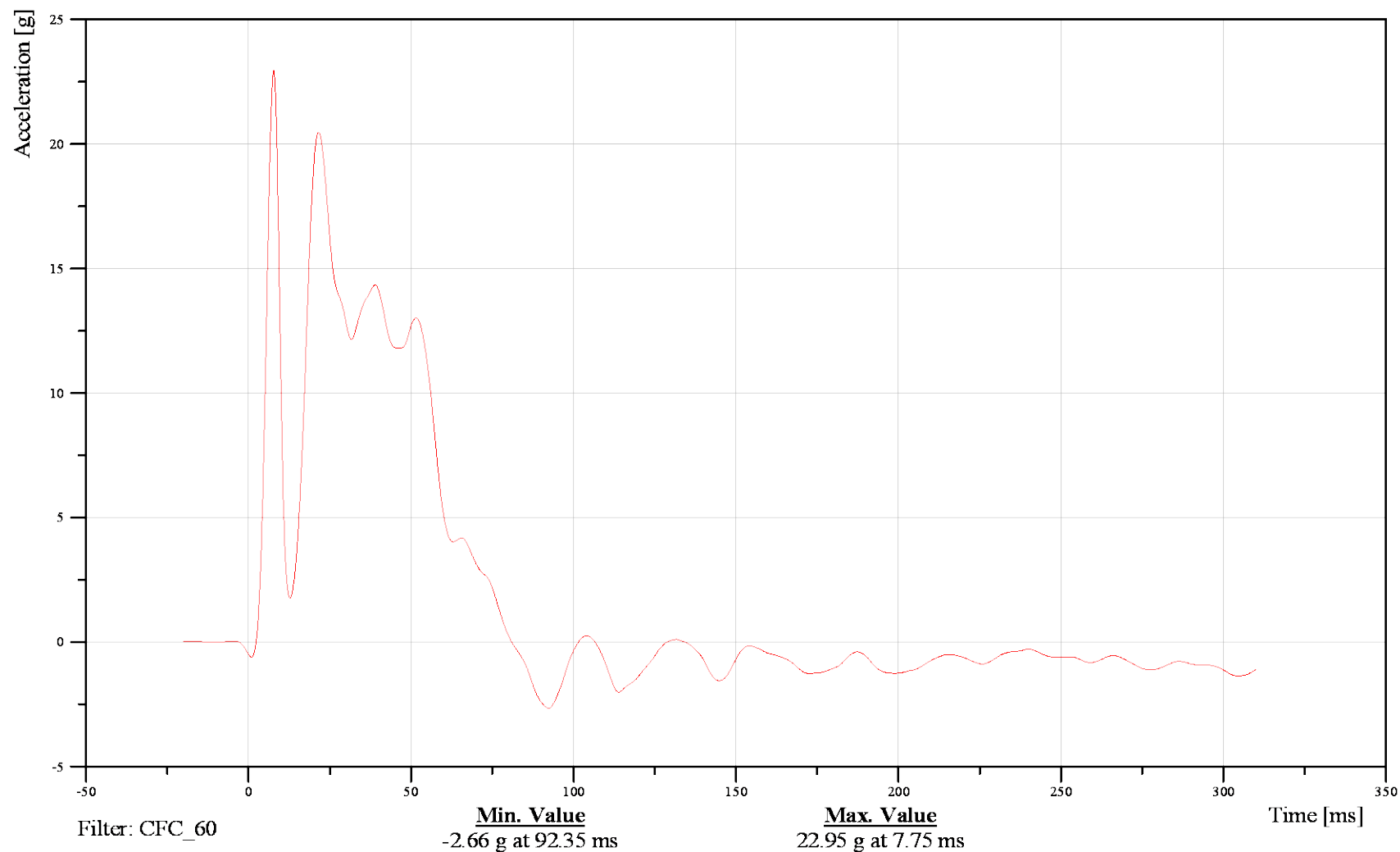
Time: 08:43

Customer: VRTC

11FORA000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Rear Floor Pan Above Axle (Z)

Date: 06/17/2013

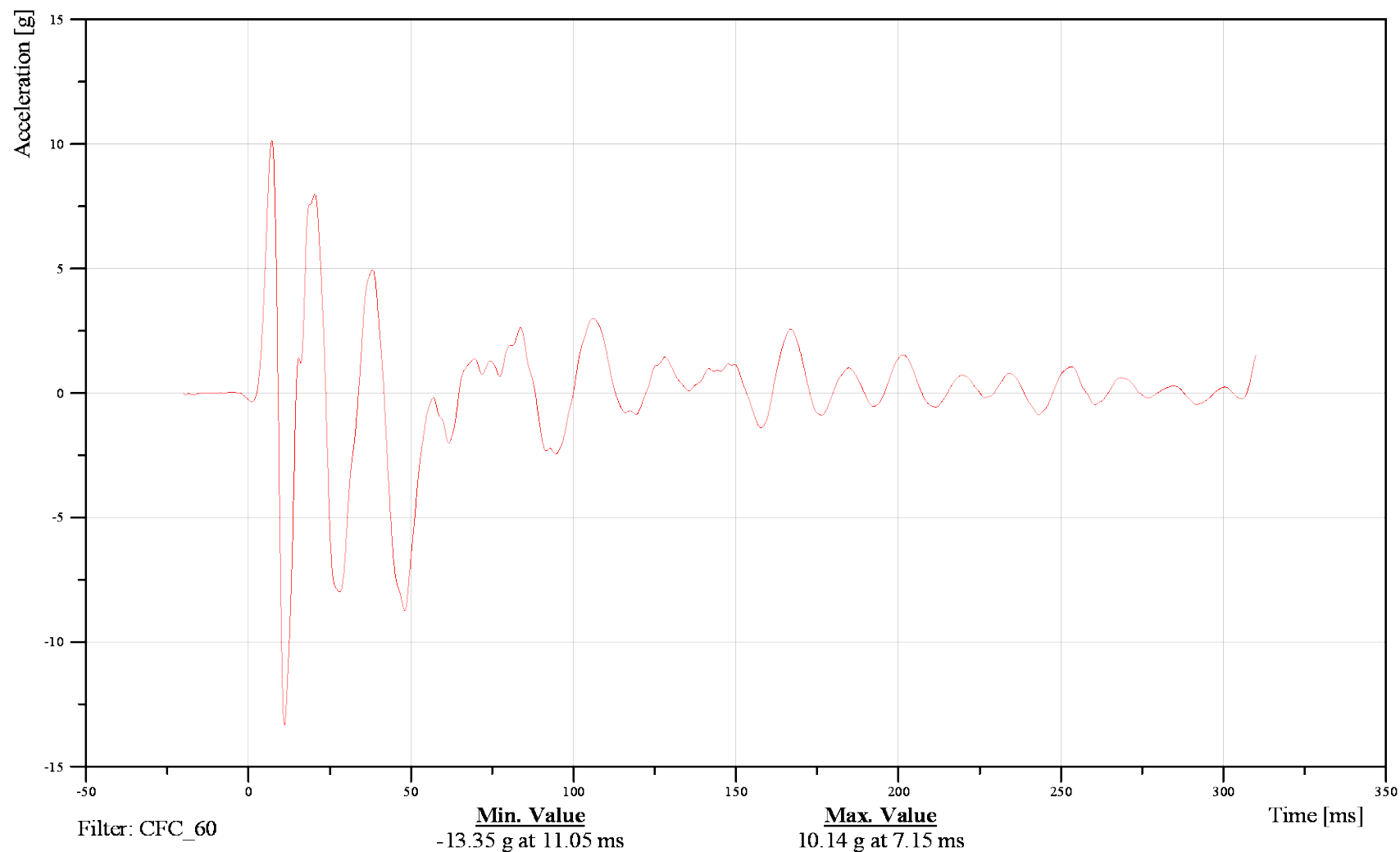
Time: 08:43

Customer: VRTC

11FORA000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Rear Floor Pan Above Axle Resultant

Date: 06/17/2013

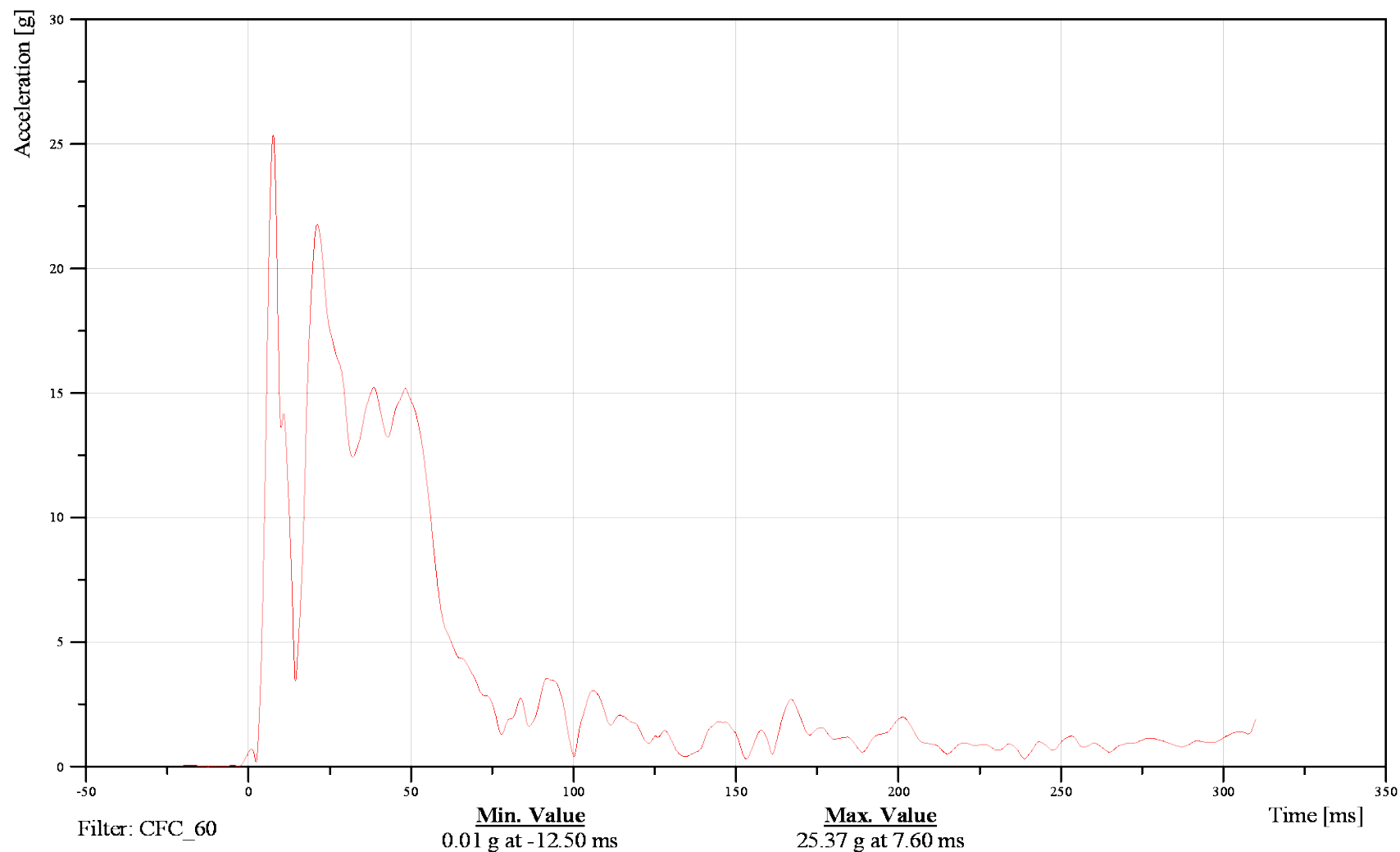
Time: 08:43

Customer: VRTC

11FORA000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle at EDR (X)

Date: 06/17/2013

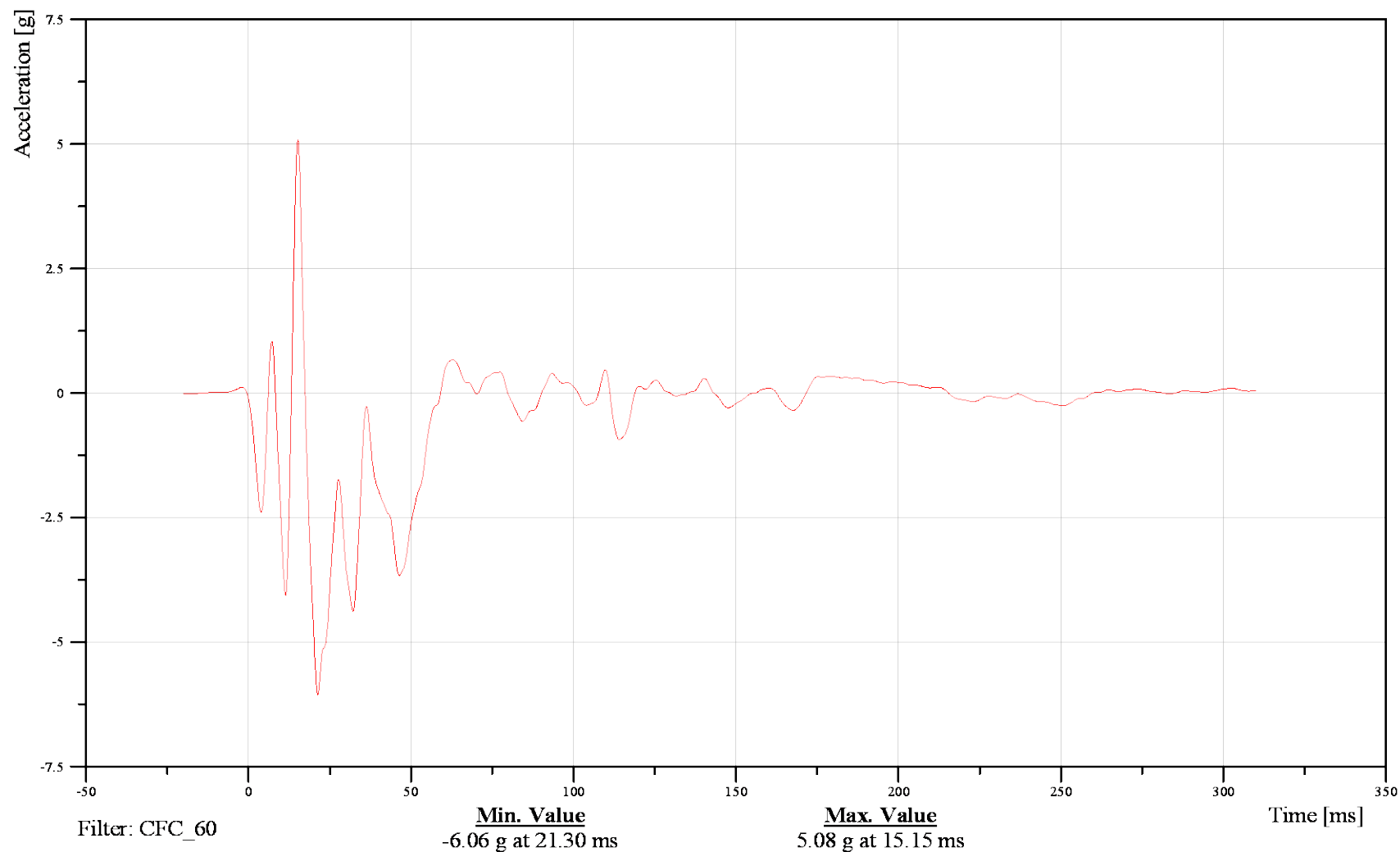
Time: 08:43

Customer: VRTC

11VEHCEDR000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle at EDR (Y)

Date: 06/17/2013

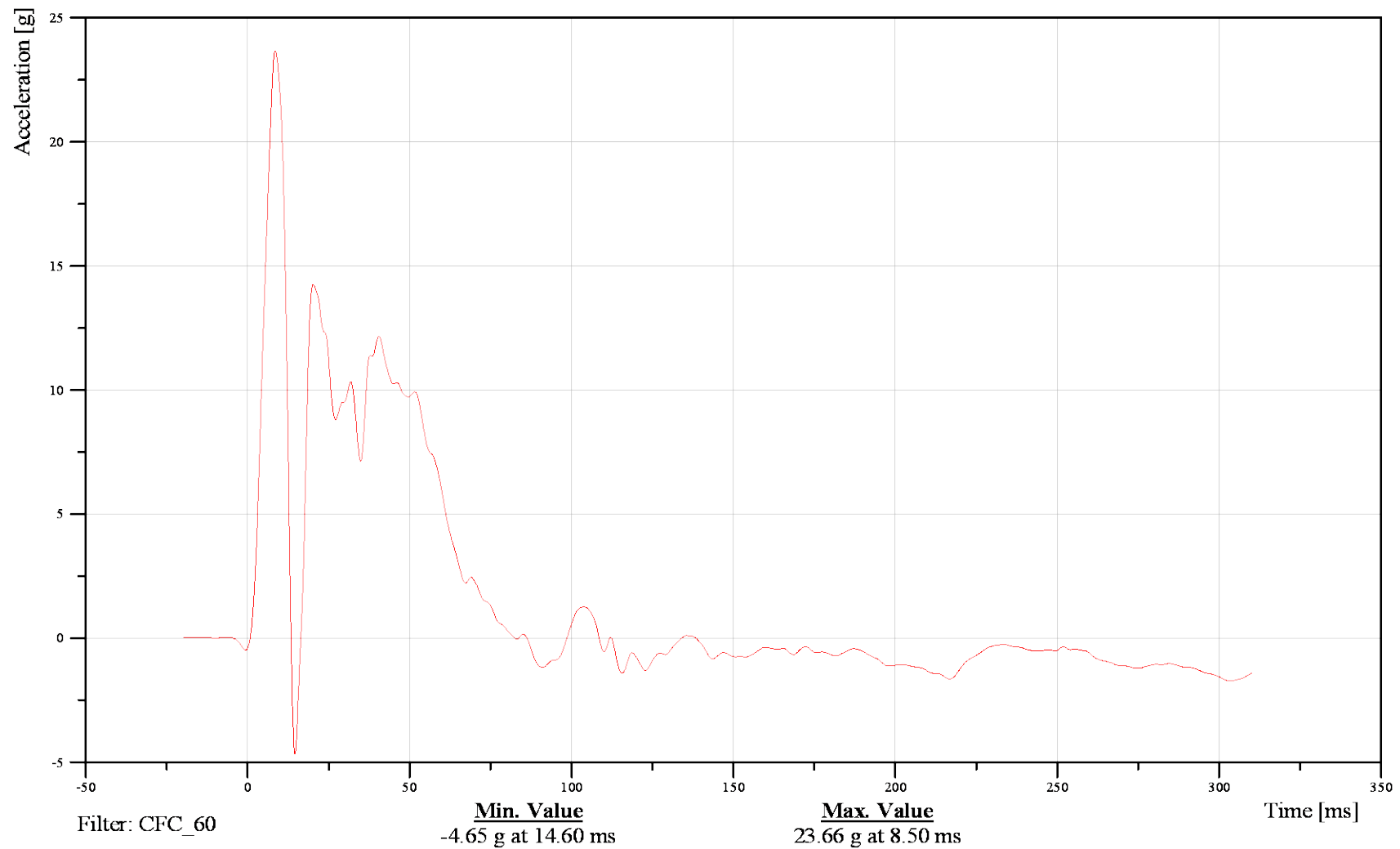
Time: 08:43

Customer: VRTC

11VEHCEDR000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle at EDR (Z)

Date: 06/17/2013

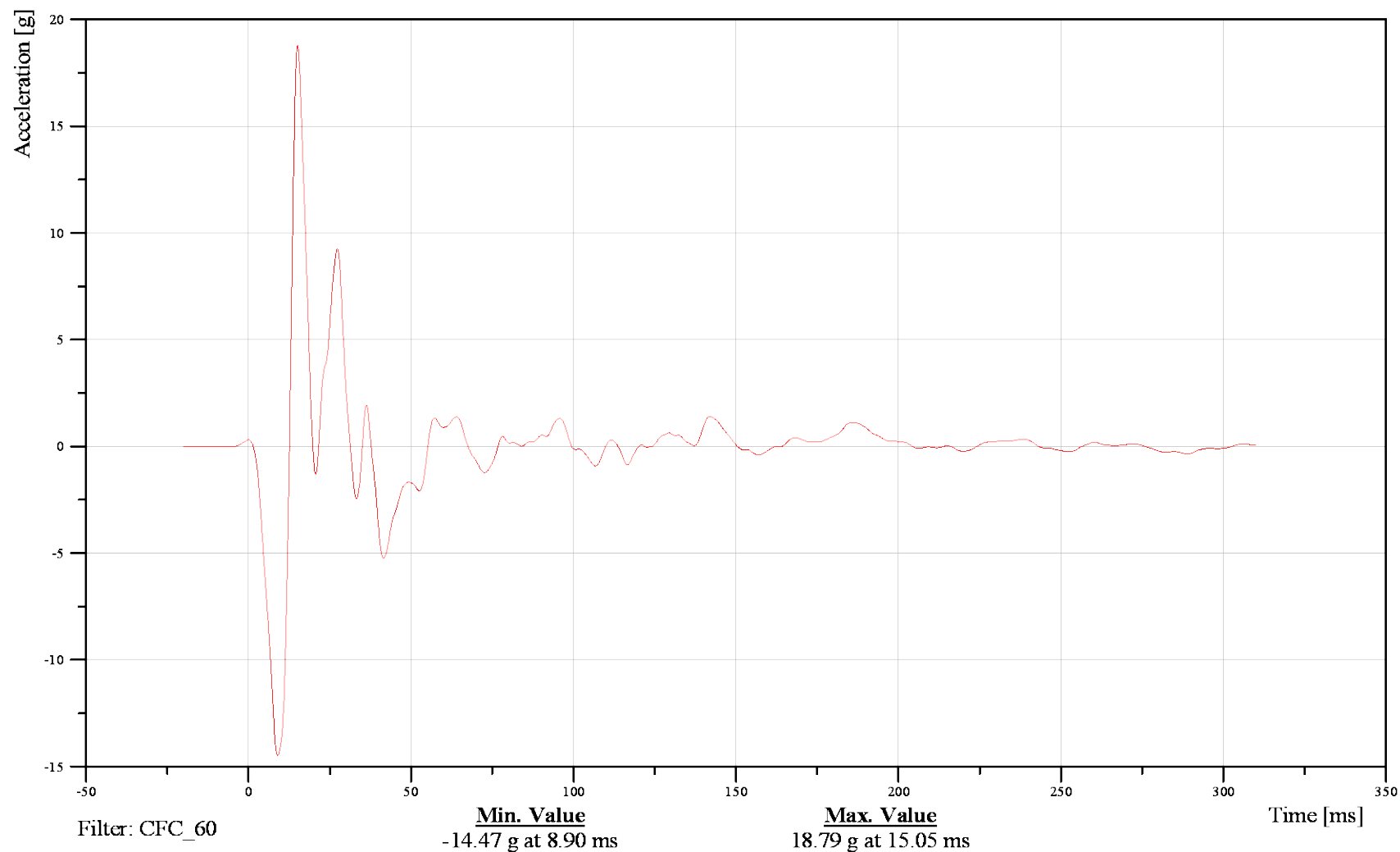
Time: 08:43

Customer: VRTC

11VEHCEDR000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Vehicle at EDR Resultant

Date: 06/17/2013

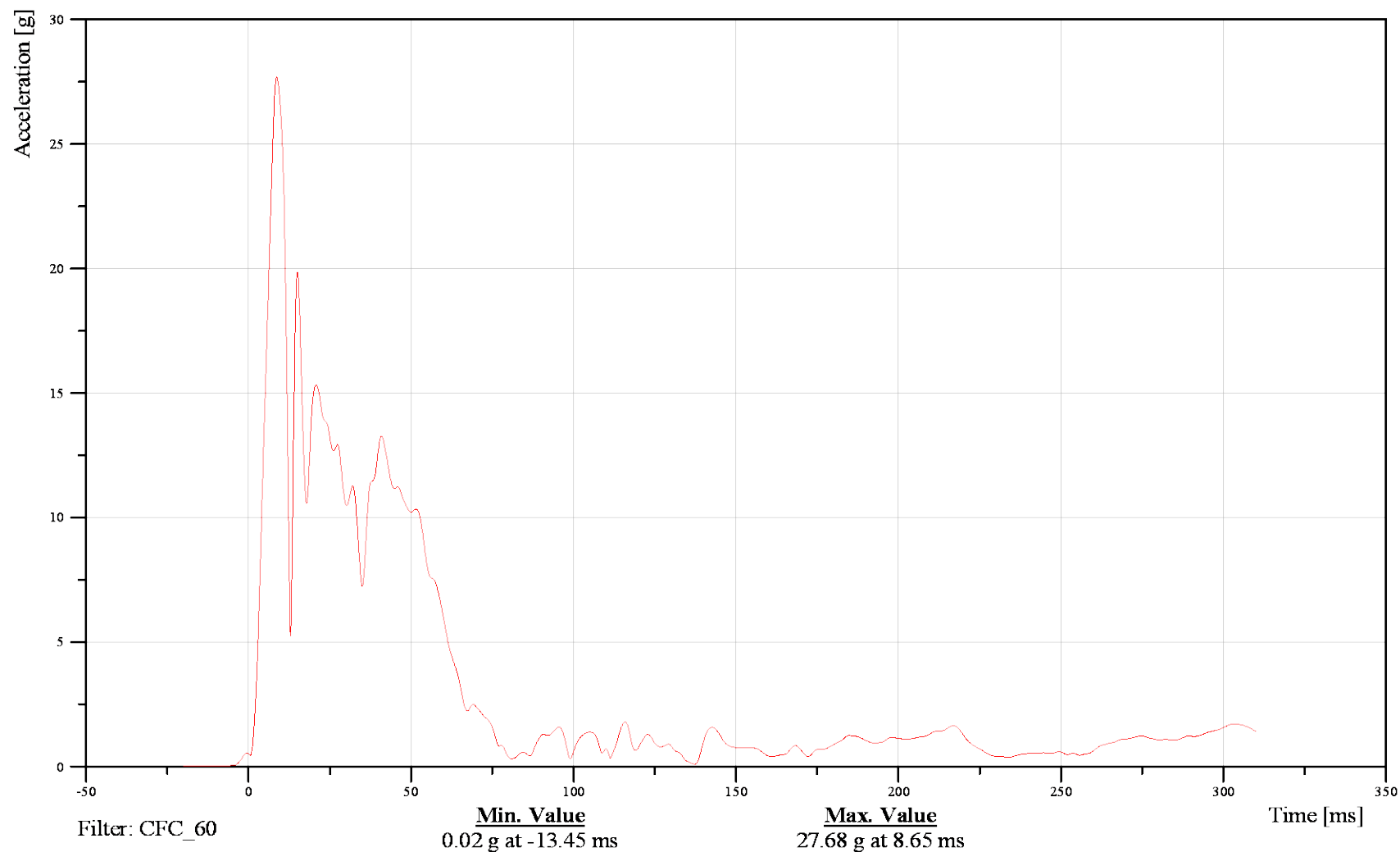
Time: 08:43

Customer: VRTC

11VEHCEDR000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

REAR DECK AX

Date: 06/17/2013

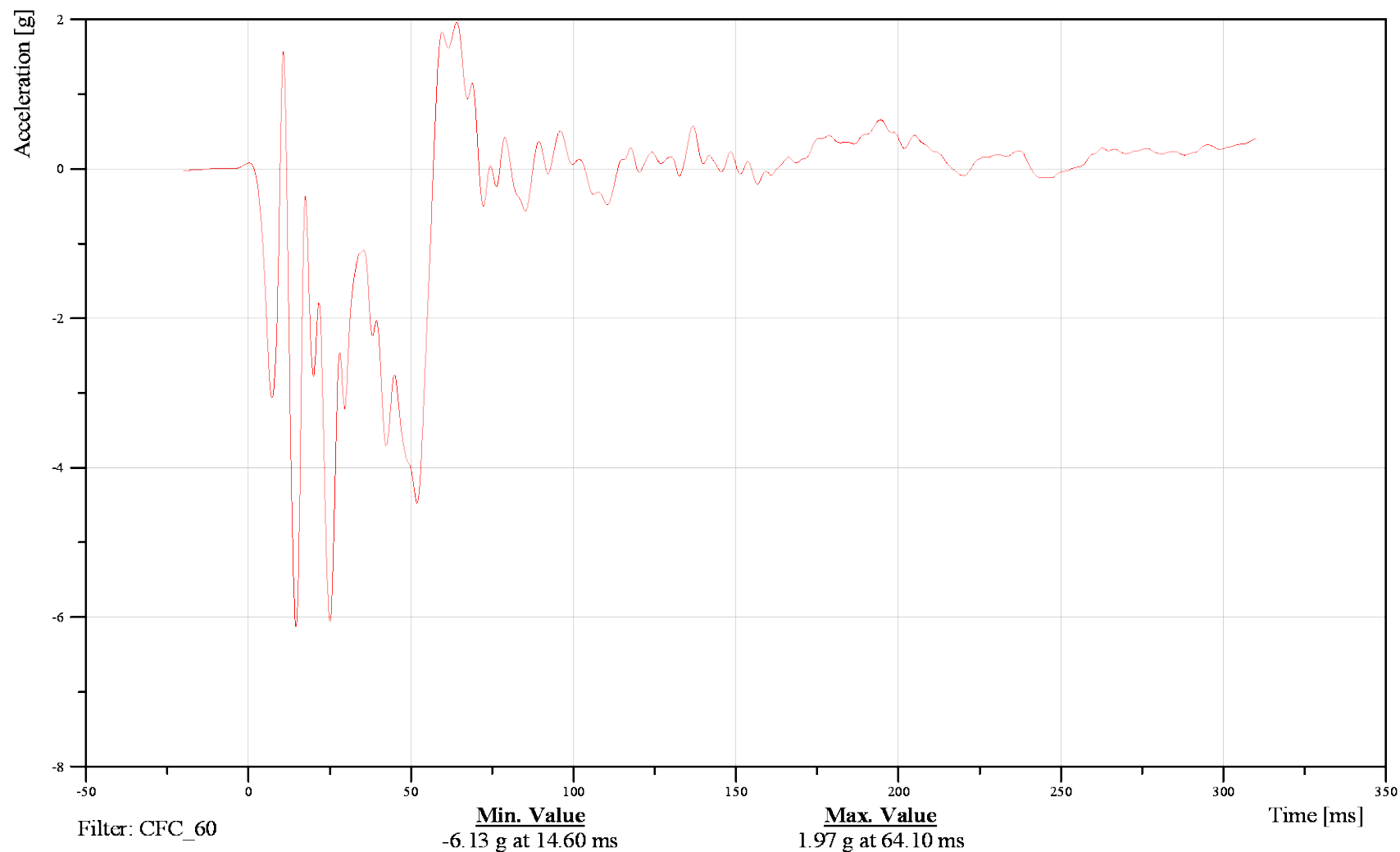
Time: 08:43

Customer: VRTC

10FORARD0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

REAR DECK AY

Date: 06/17/2013

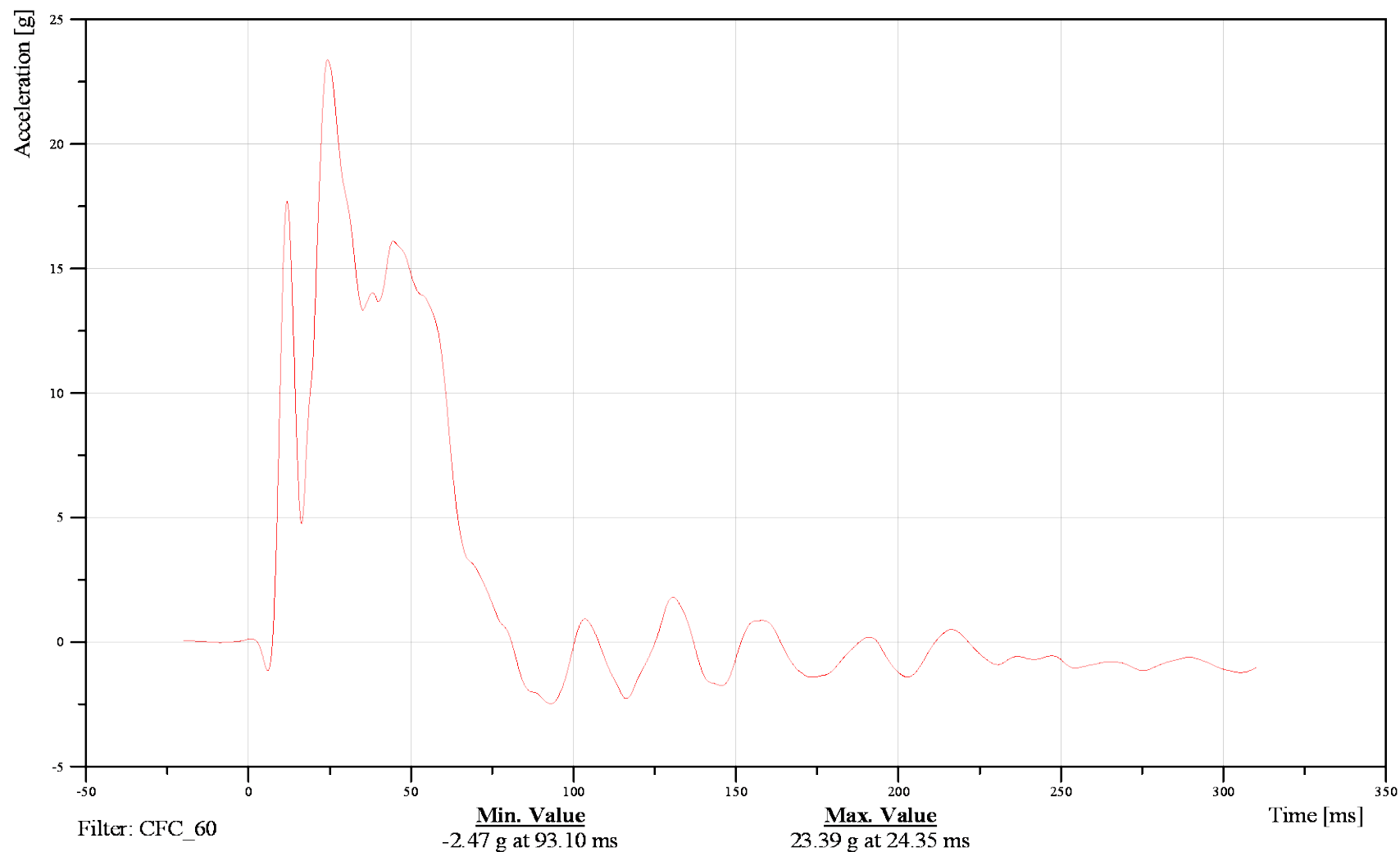
Time: 08:43

Customer: VRTC

10FORARD0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

REAR DECK AZ

Date: 06/17/2013

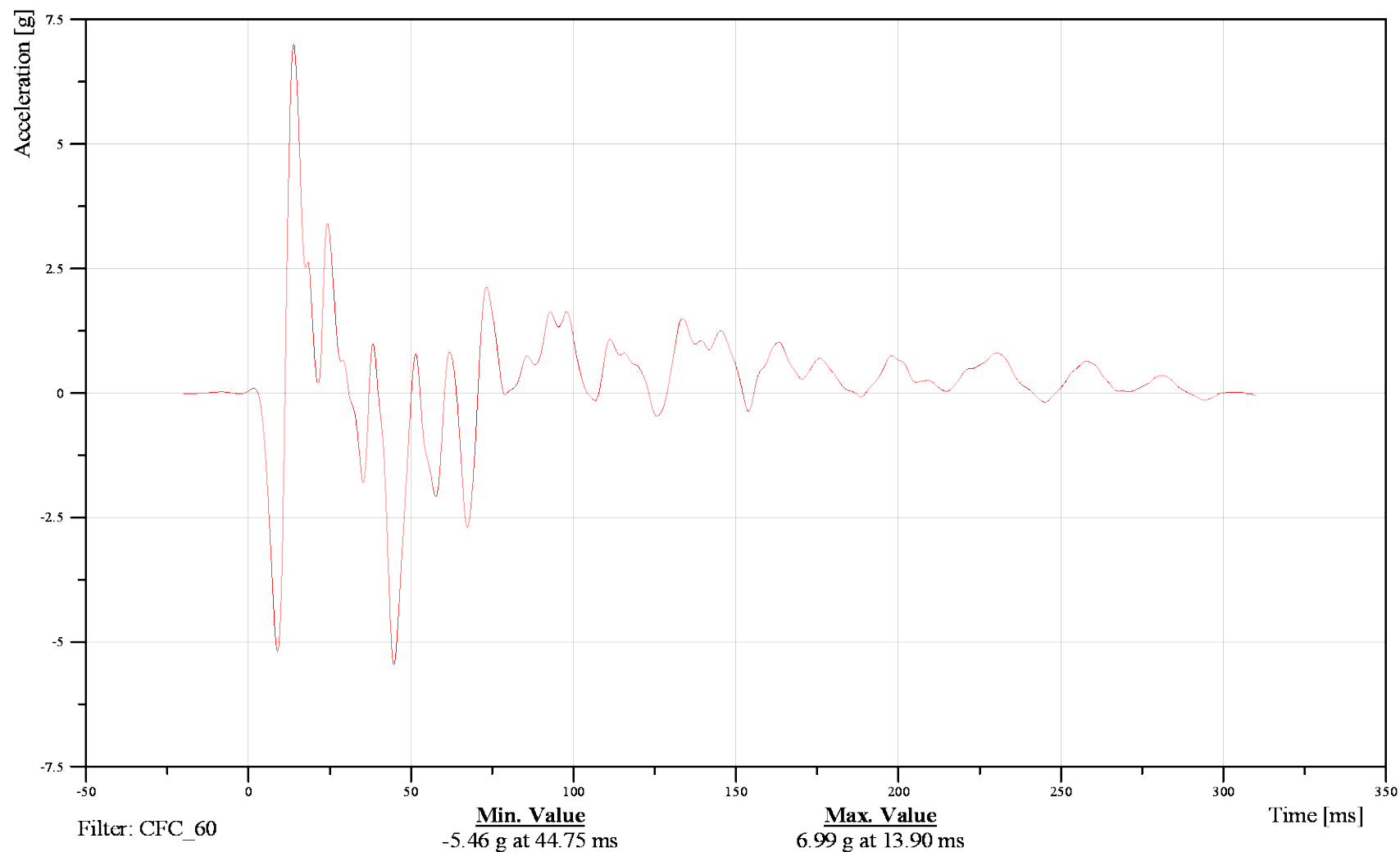
Time: 08:43

Customer: VRTC

10FORARD0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

REAR DECK A Resultant

Date: 06/17/2013

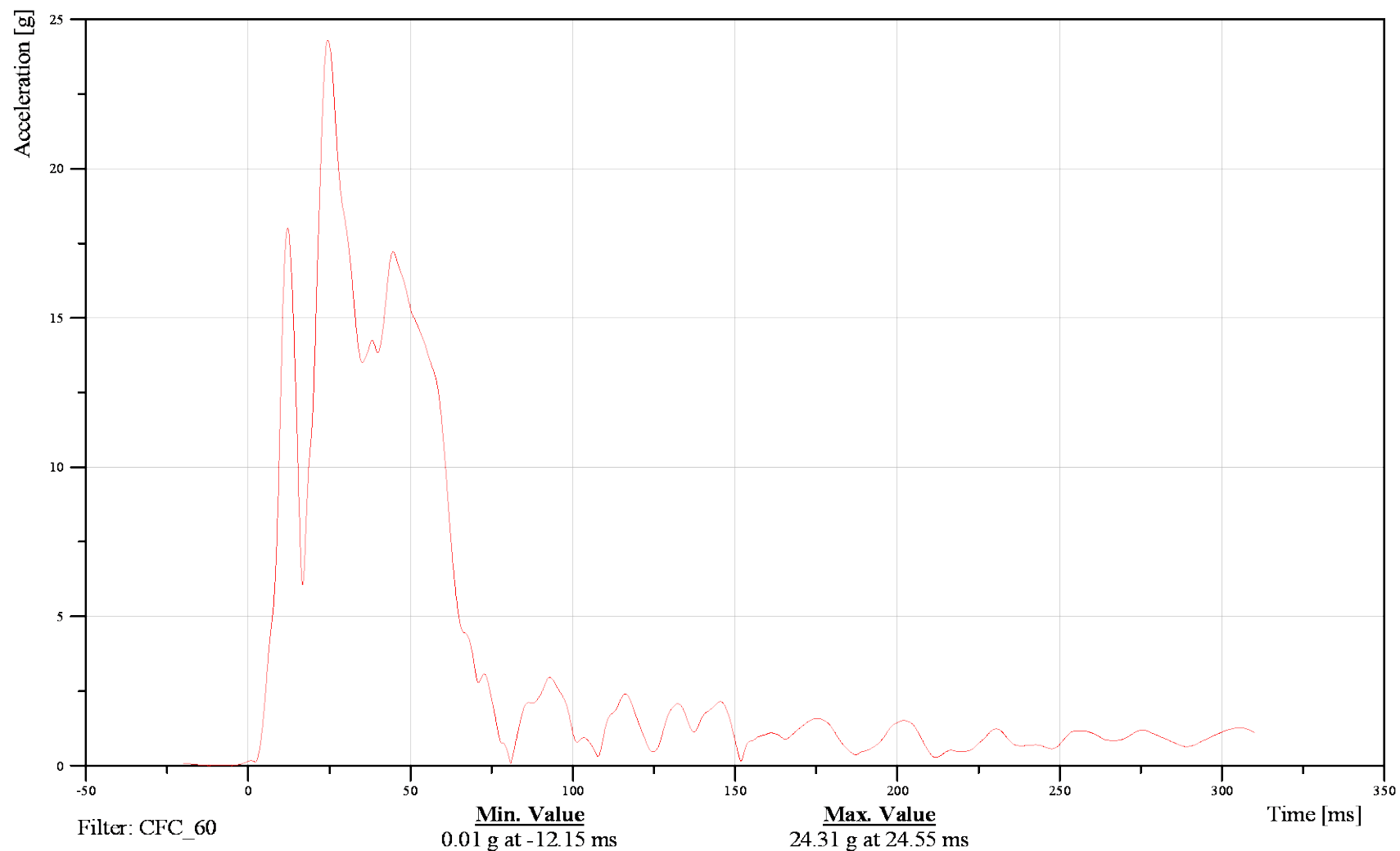
Time: 08:43

Customer: VRTC

10FORARD0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

VEHICLE CENTER OF GRAVITY (X) ROLL RATE GYRO

Date: 06/17/2013

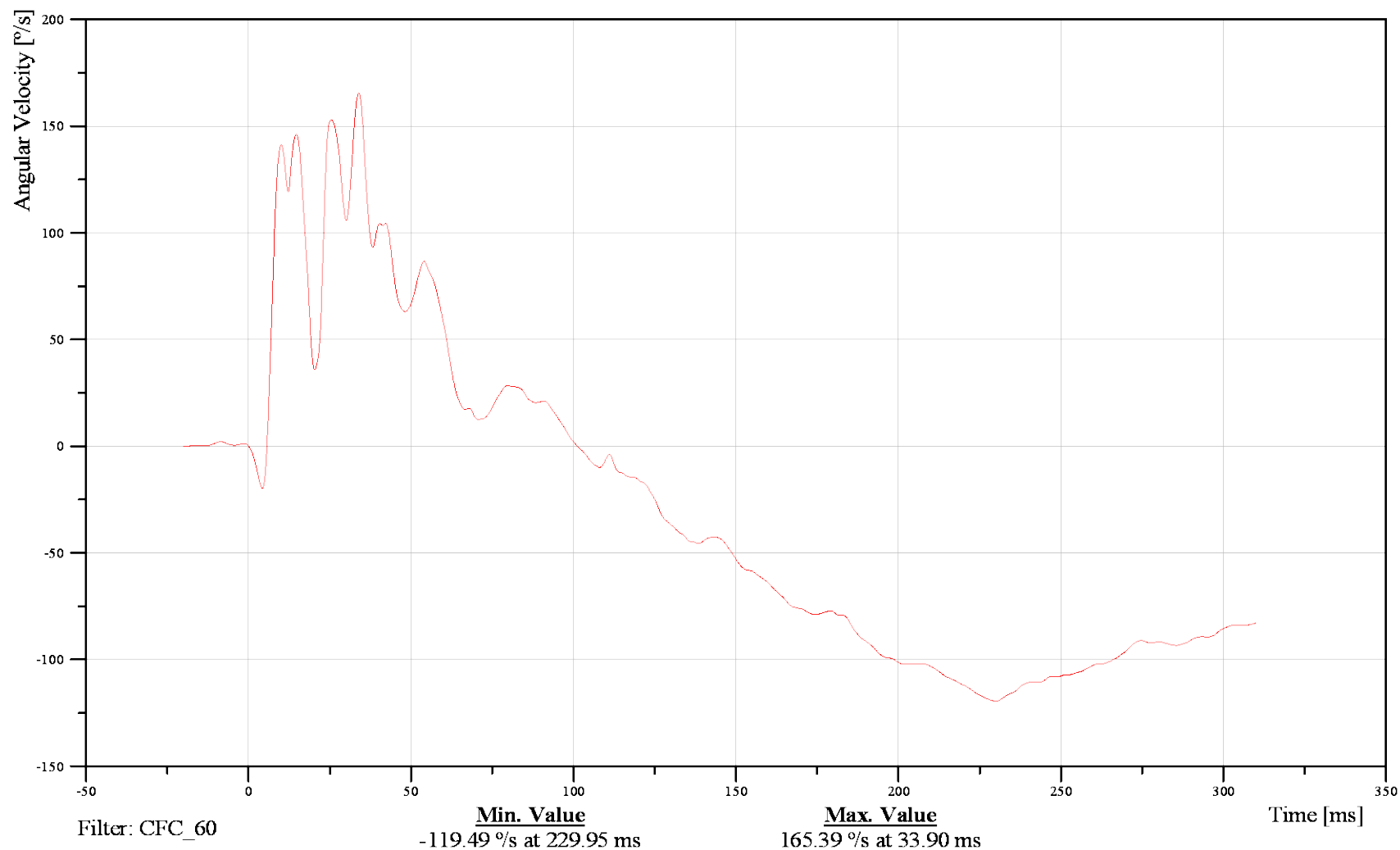
Time: 08:43

Customer: VRTC

10VEHCCG0000AVXD

TRC Inc. Test Lab: CTF

Test Number: 120906





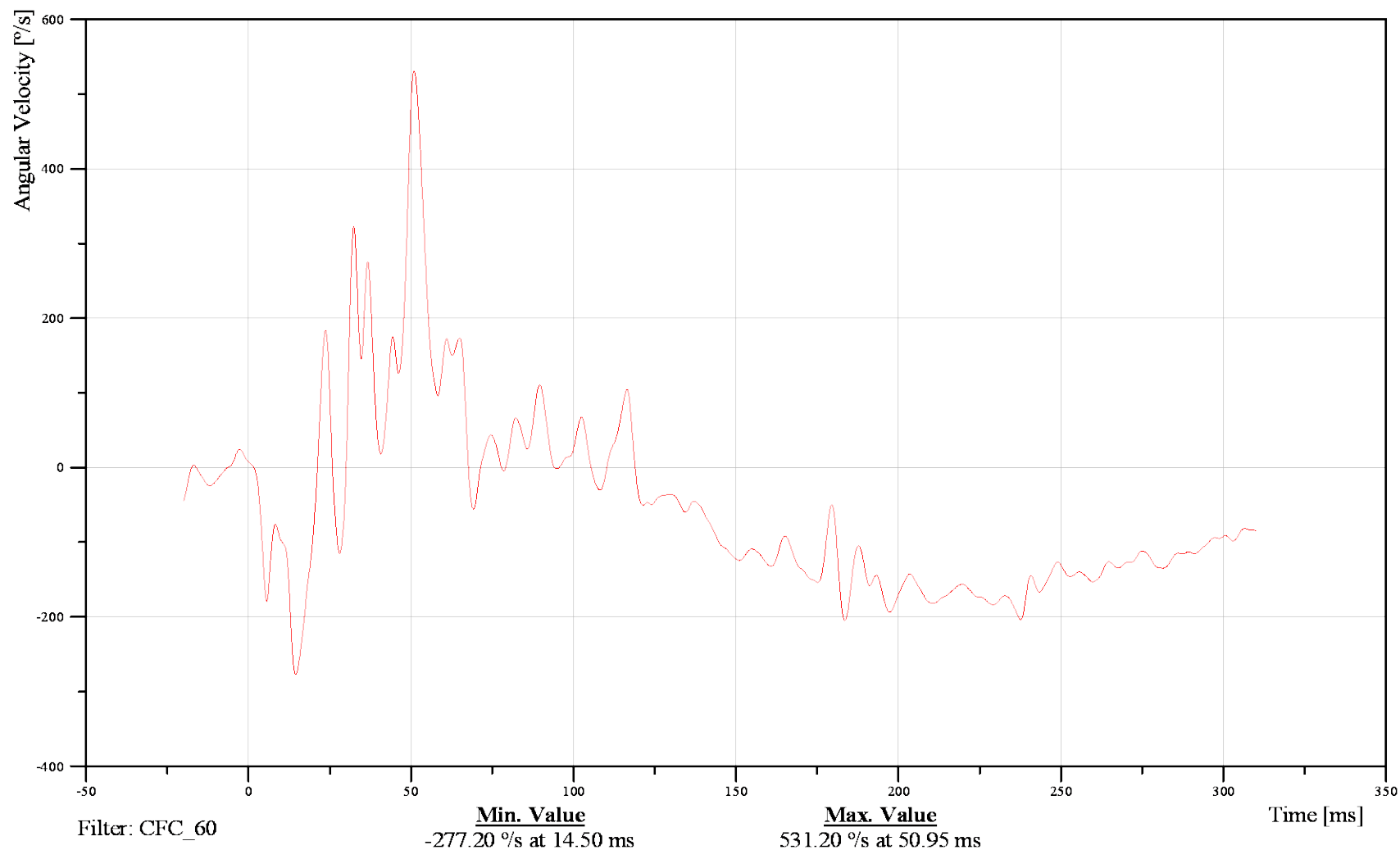
FMVSS 214 Side Impact 2011 Jeep Grand Cherokee
VEHICLE CENTER OF GRAVITY (Y) PITCH RATE GYRO

Date: 06/17/2013
Time: 08:43

Customer: VRTC

10VEHCCG0000AVYD

TRC Inc. Test Lab: CTF
Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

VEHICLE CENTER OF GRAVITY (Z) YAW RATE GYRO

Date: 06/17/2013

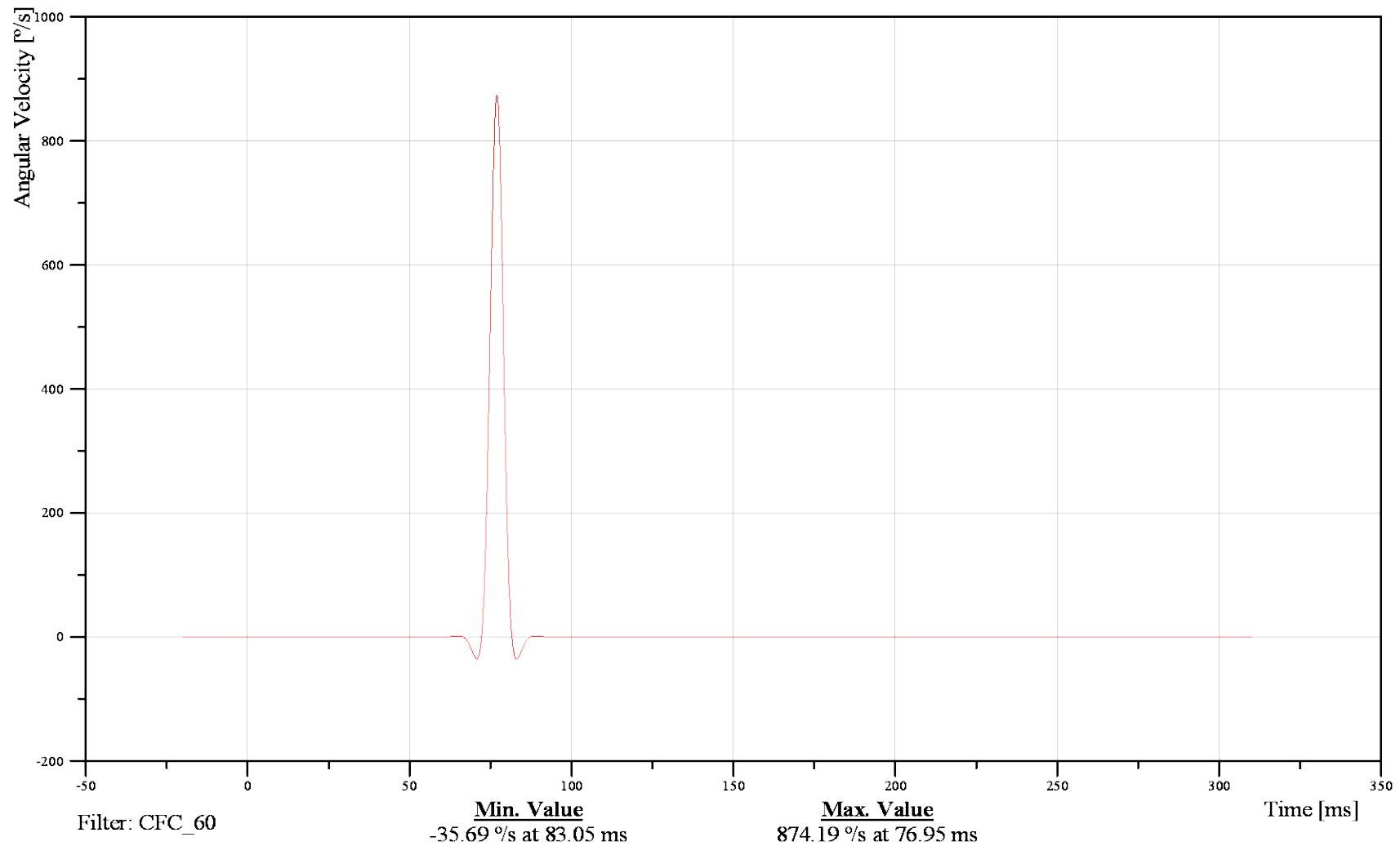
Time: 08:43

Customer: VRTC

10VEHCCG0000AVZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

VEHICLE AT EDR (X) ROLL RATE GYRO

Date: 06/17/2013

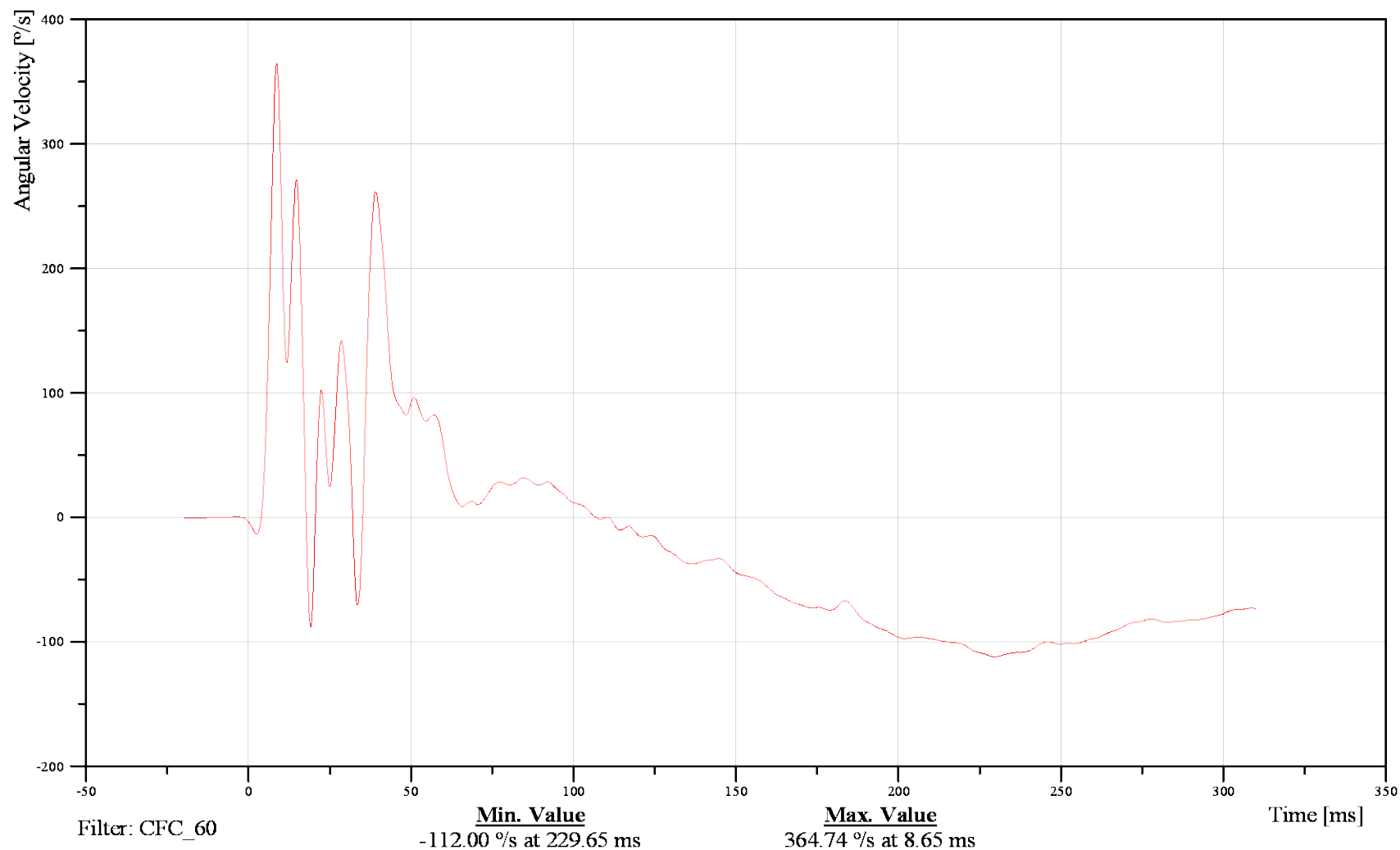
Time: 08:43

Customer: VRTC

10VEHCEDR000AVXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

VEHICLE AT EDR (Y) PITCH RATE GYRO

Date: 06/17/2013

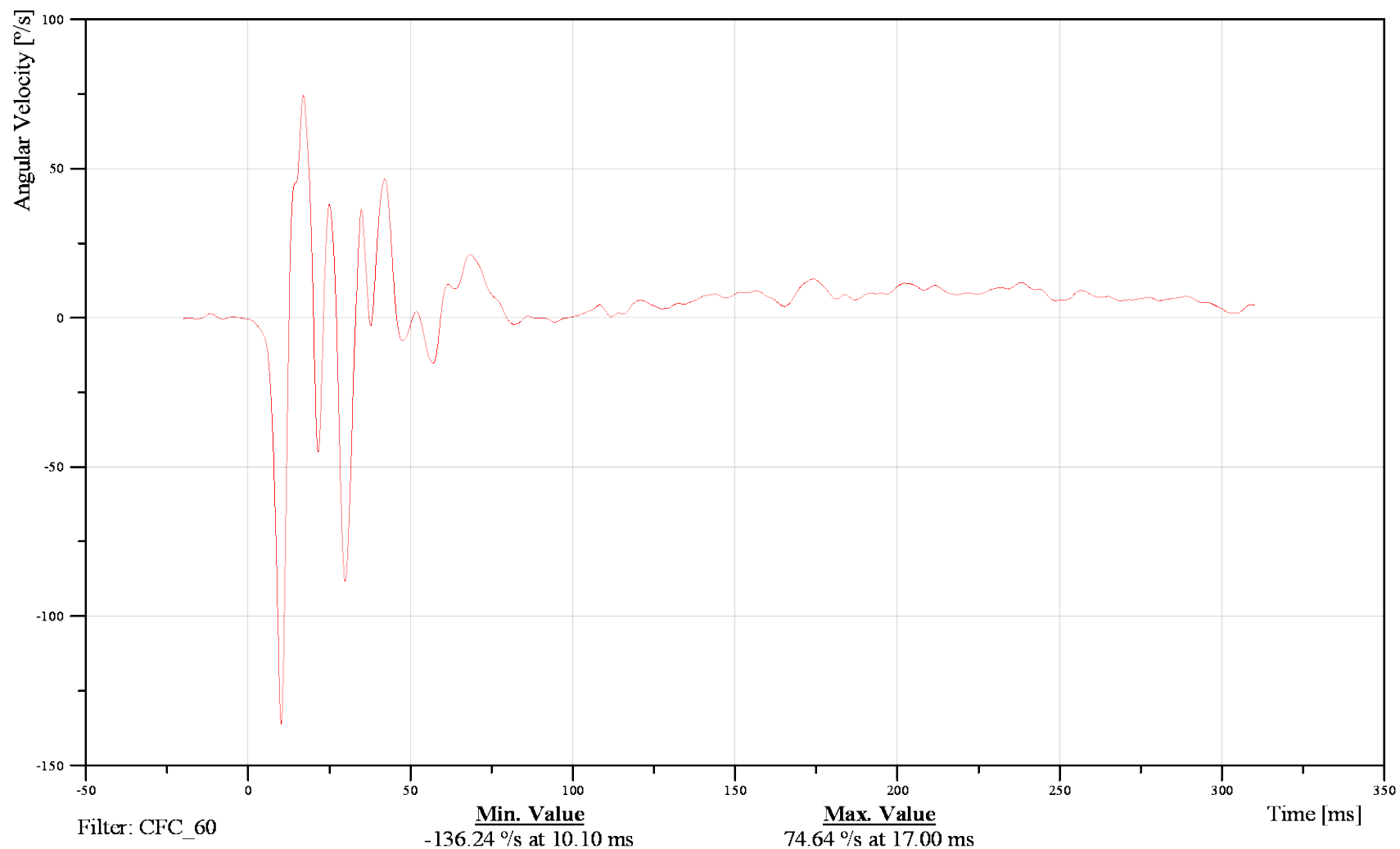
Time: 08:43

Customer: VRTC

10VEHCEDR000AVYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

VEHICLE AT EDR (Z) YAW RATE GYRO

Date: 06/17/2013

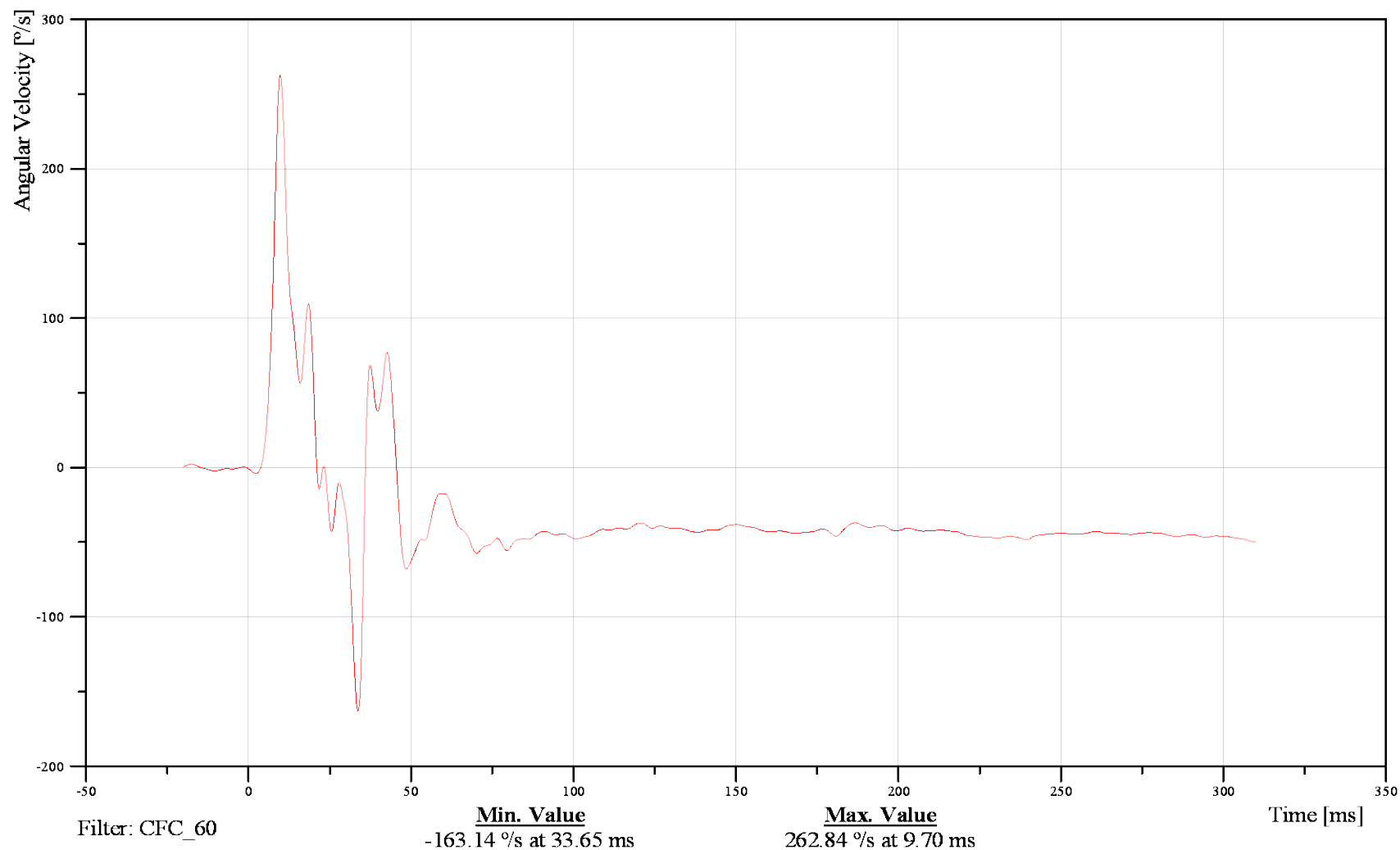
Time: 08:43

Customer: VRTC

10VEHCEDR000AVZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

REAR DECK (X) ROLL RATE GYRO

Date: 06/17/2013

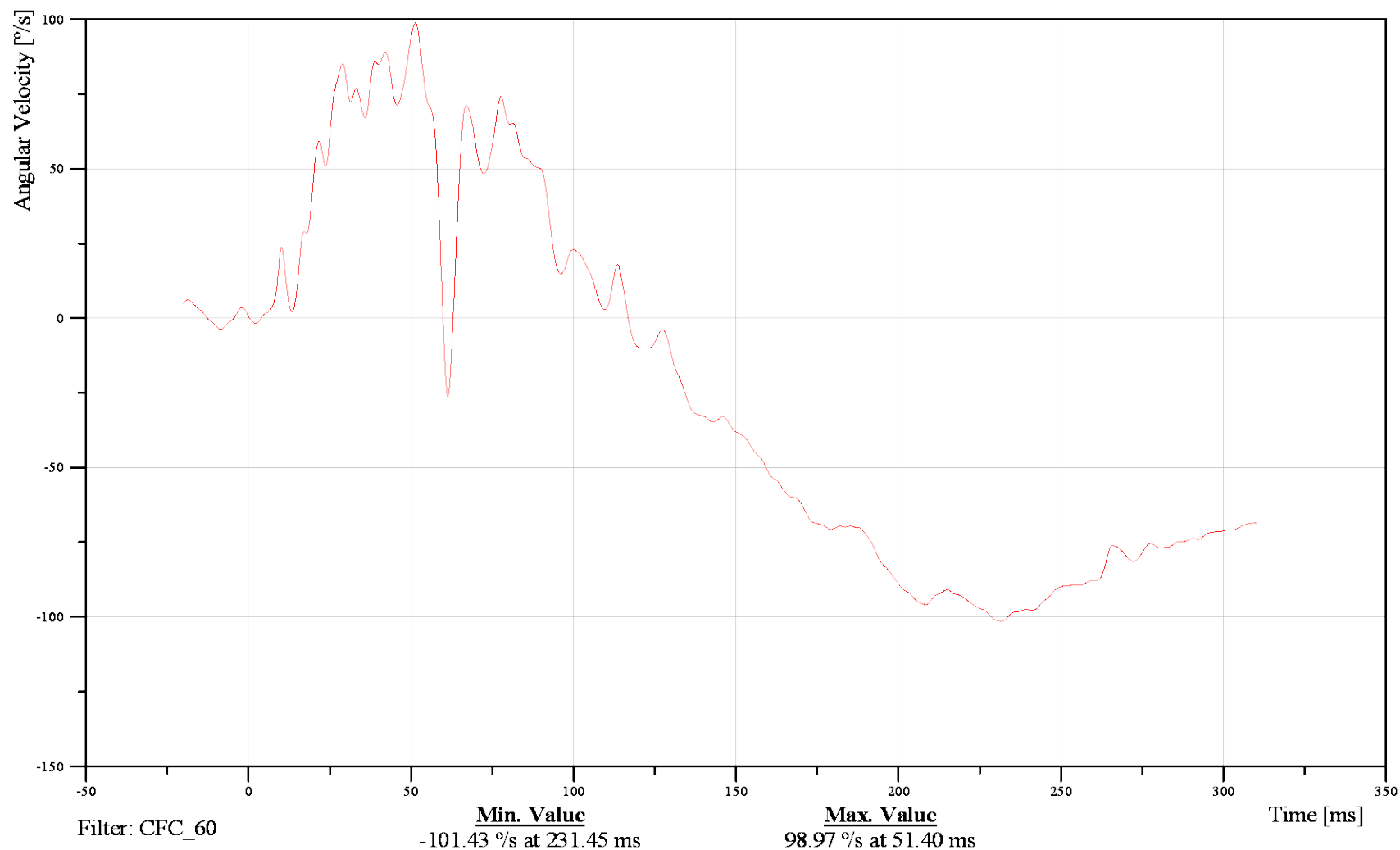
Time: 08:43

Customer: VRTC

10FORARD0000AVXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

REAR DECK (Y) PITCH RATE GYRO

Date: 06/17/2013

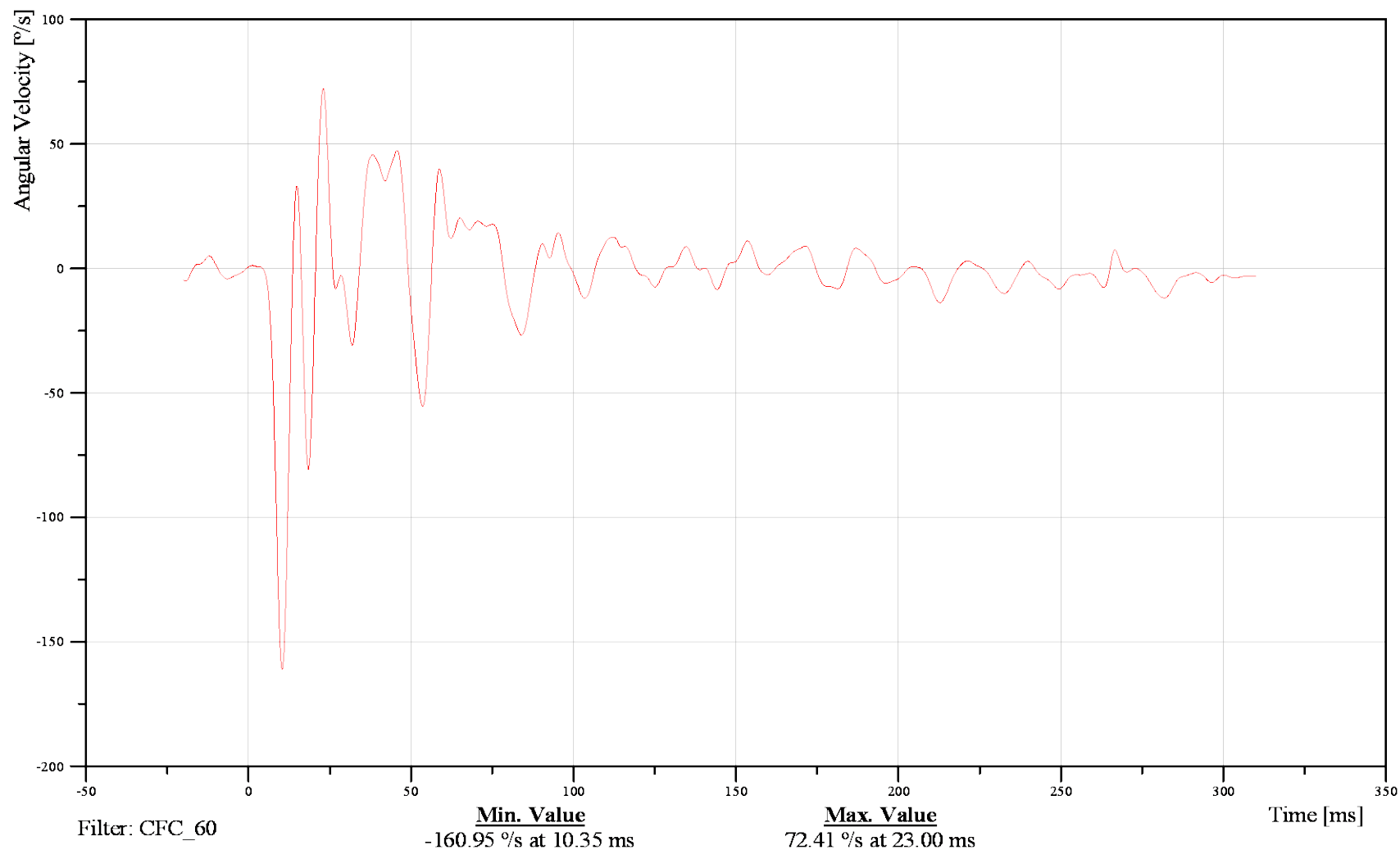
Time: 08:43

Customer: VRTC

10FORARD0000AVYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

REAR DECK (Z) YAW RATE GYRO

Date: 06/17/2013

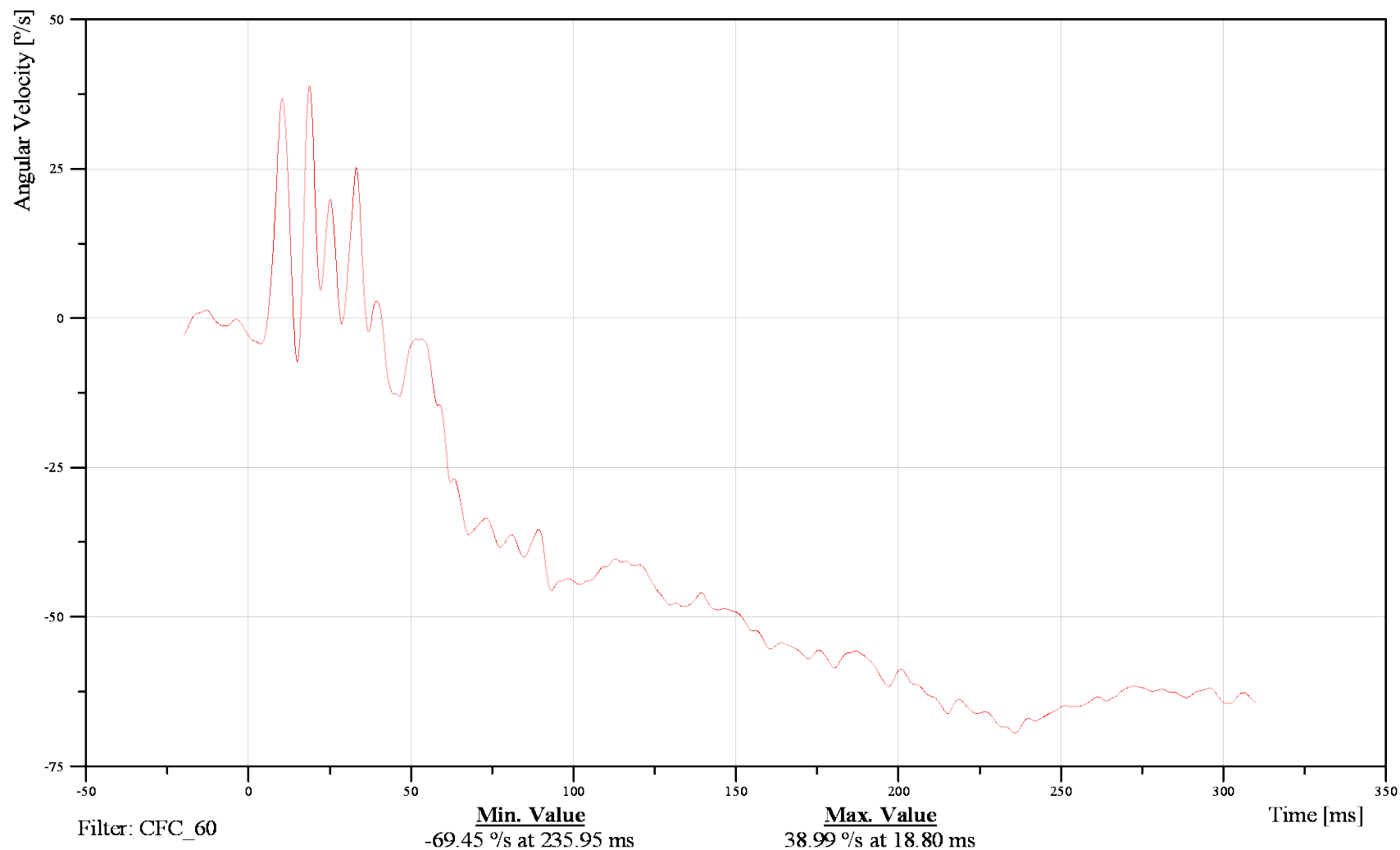
Time: 08:43

Customer: VRTC

10FORARD0000AVZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Front Door Mid Centerline (Y)

Date: 06/17/2013

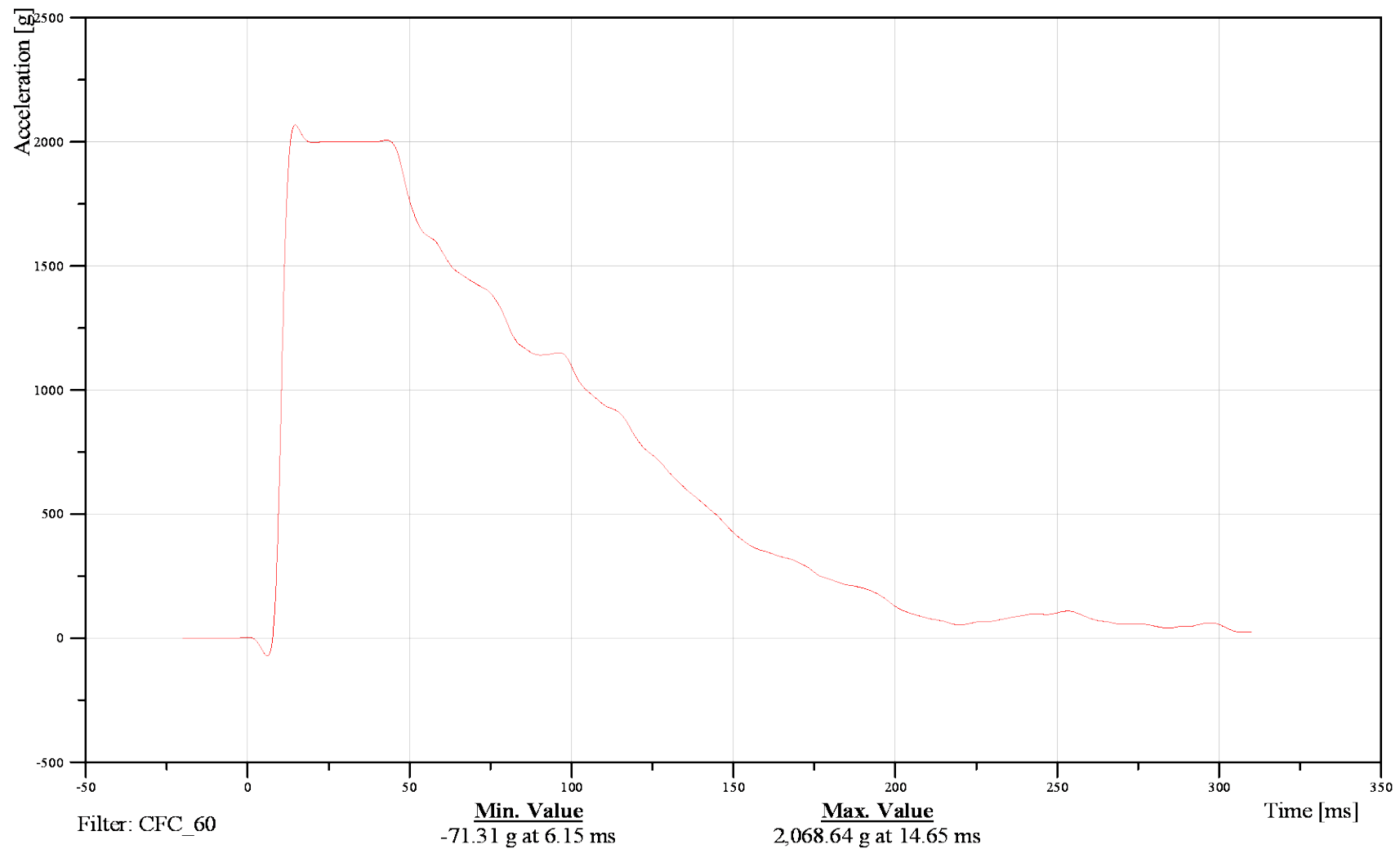
Time: 08:43

Customer: VRTC

11DOORMIMI71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Front Door Mid Rear (Y)

Date: 06/17/2013

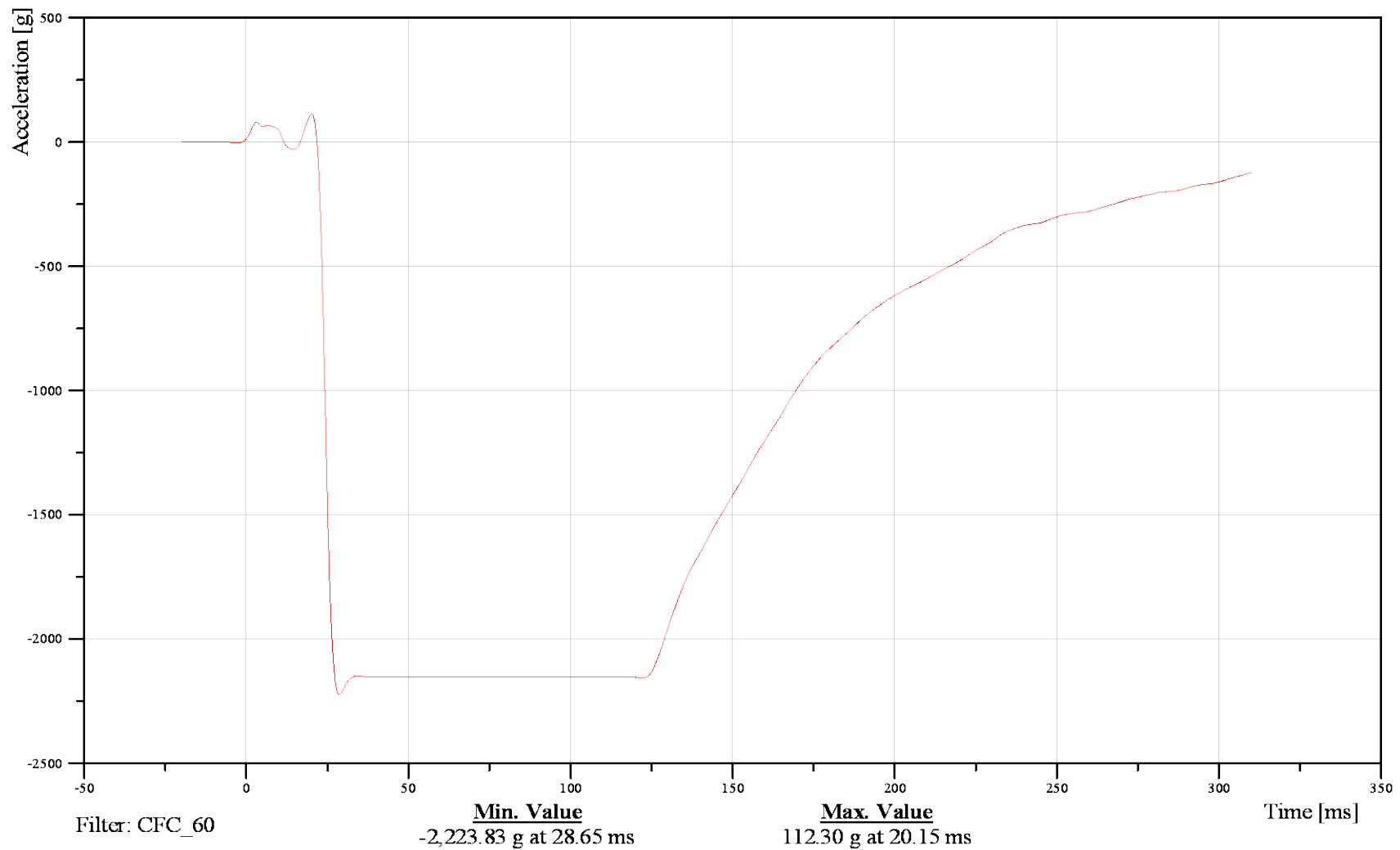
Time: 08:43

Customer: VRTC

11DOORMIRE71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Front Door Upper Centerline (Y)

Date: 06/17/2013

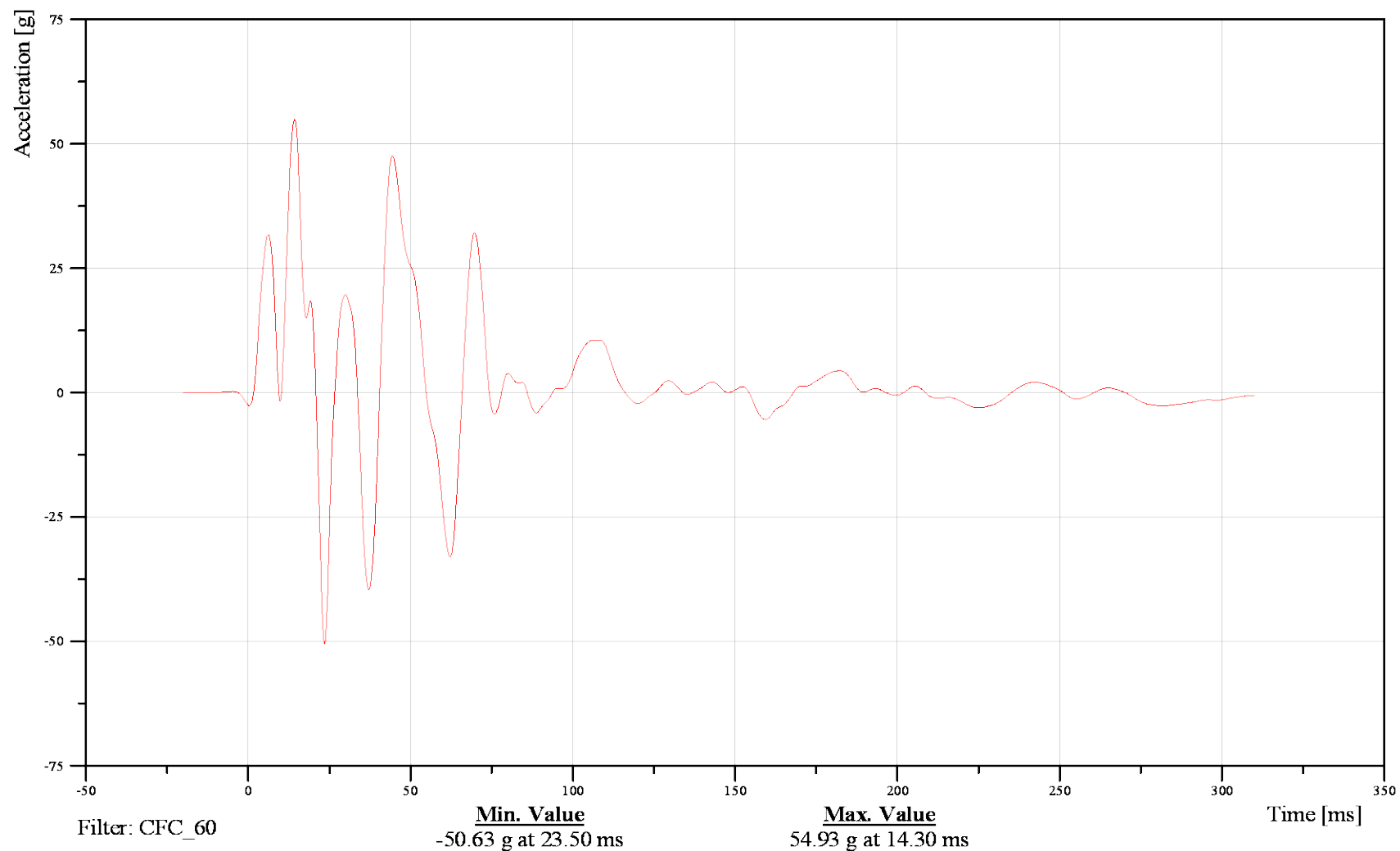
Time: 08:43

Customer: VRTC

11DOORMIUP71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Rear Door Mid Rear (Y)

Date: 06/17/2013

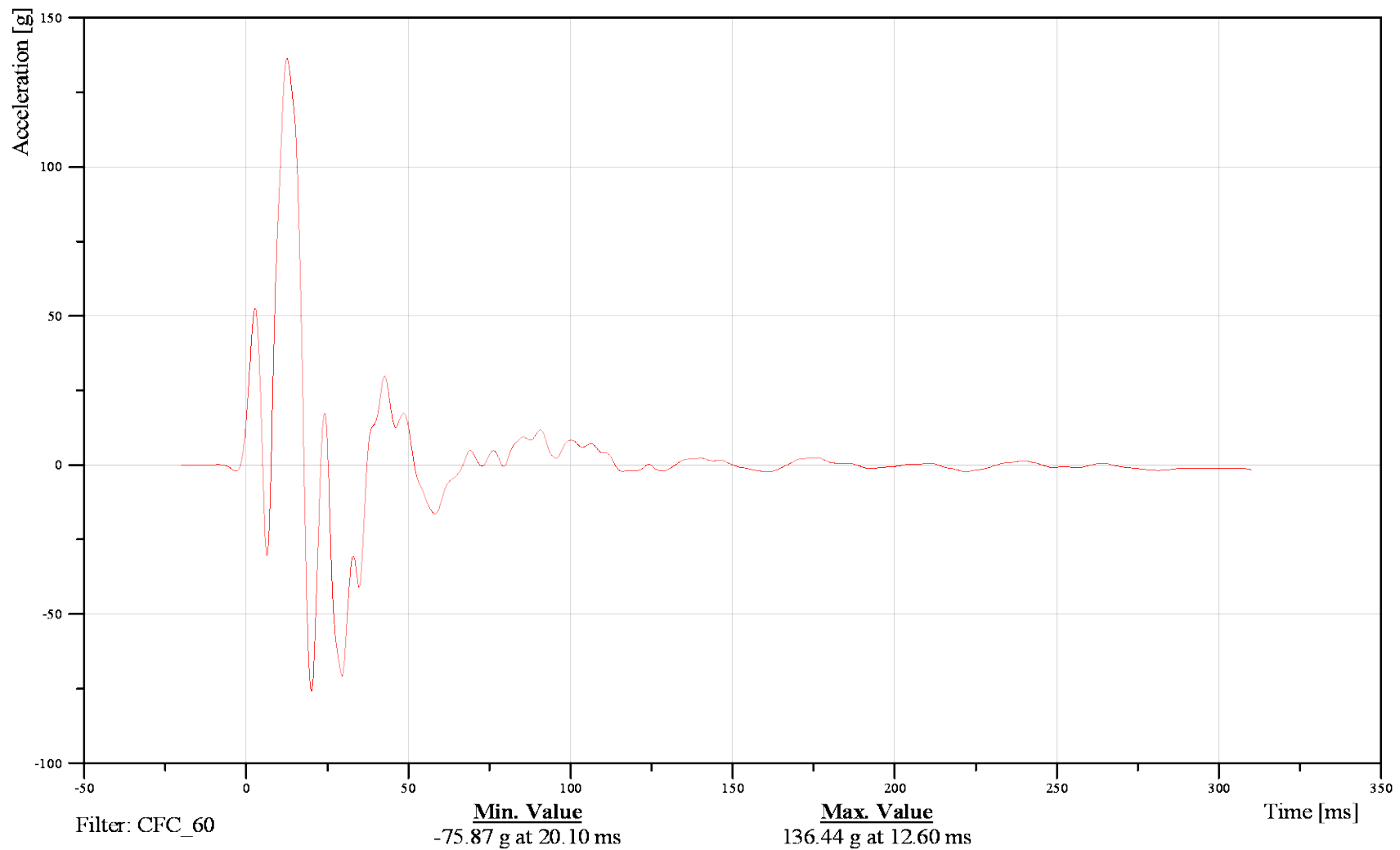
Time: 08:43

Customer: VRTC

14DOORMIRE71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Left Rear Door Upper Centerline (Y)

Date: 06/17/2013

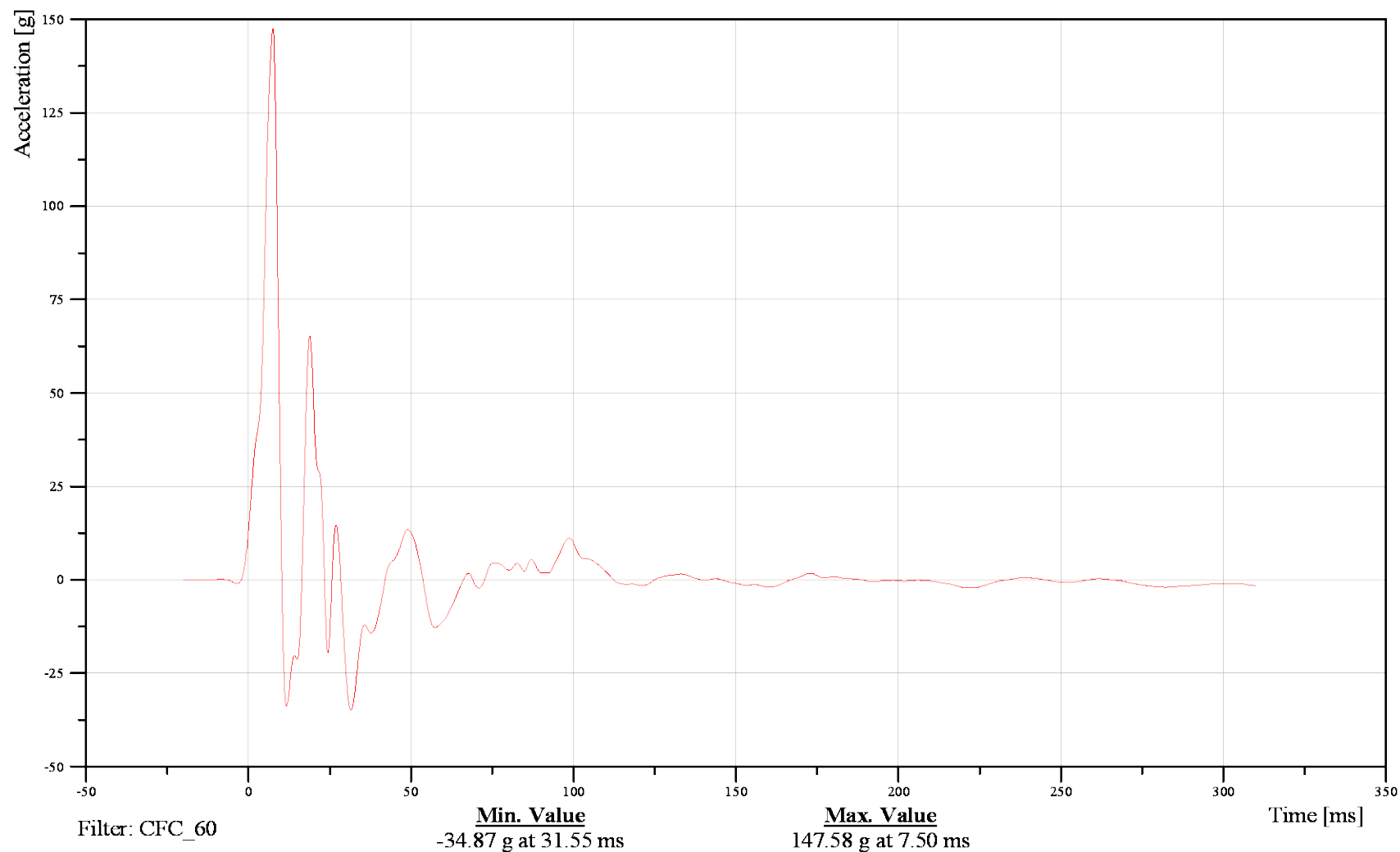
Time: 08:43

Customer: VRTC

14DOORMIUP71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Driver primary

Date: 06/17/2013

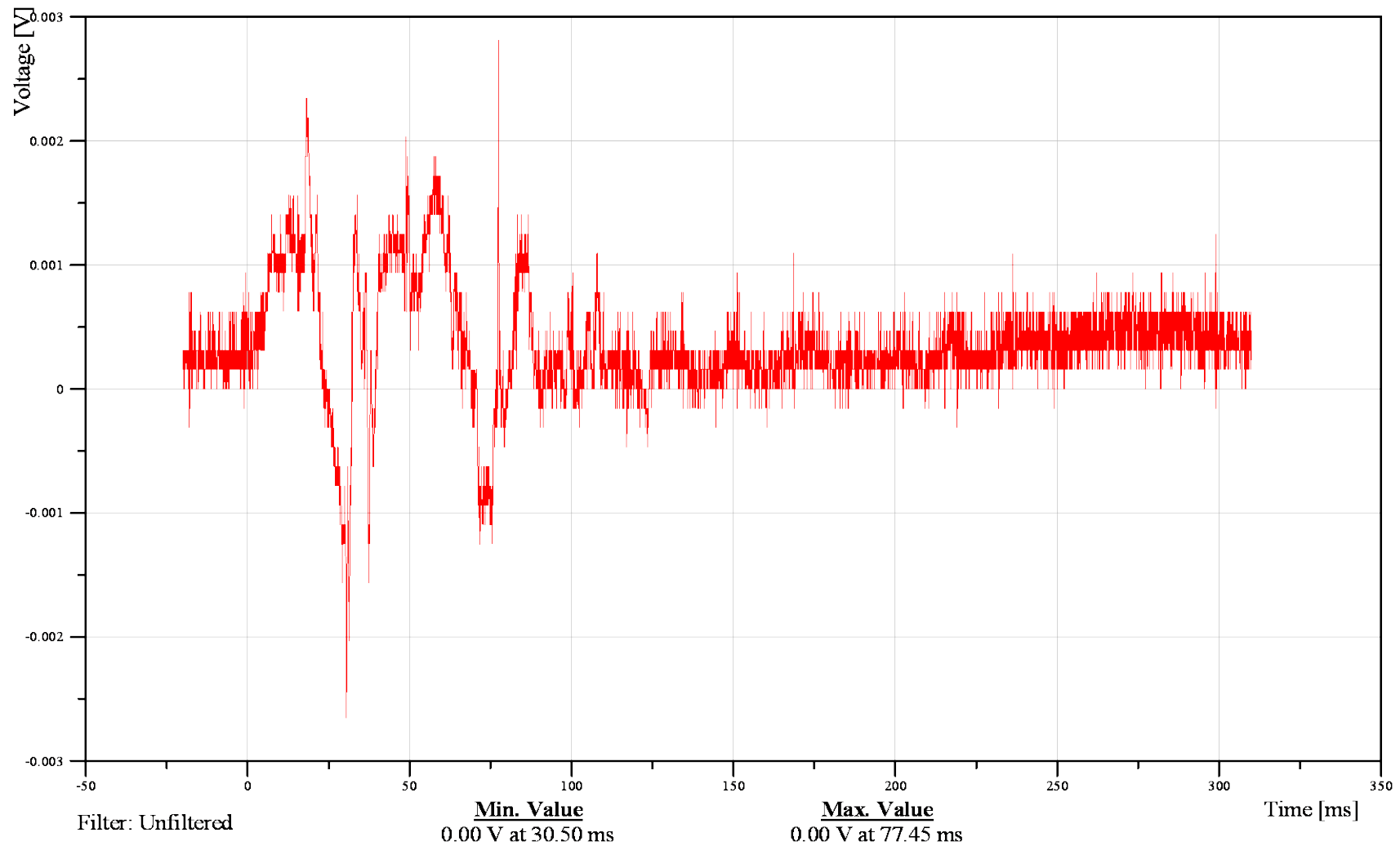
Time: 08:43

Customer: VRTC

11SENS000000VO00

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

SAB TIMING IND

Date: 06/17/2013

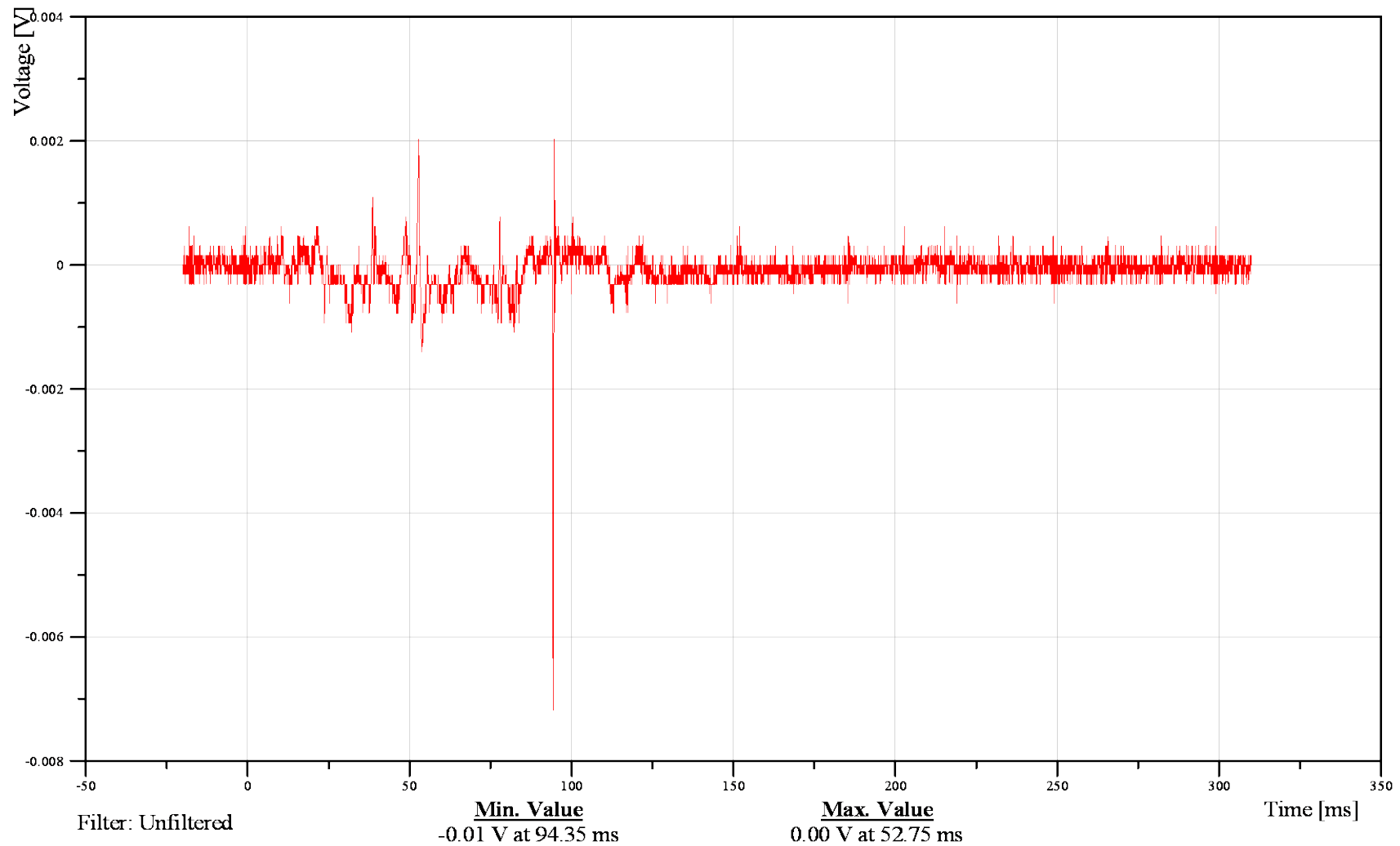
Time: 08:43

Customer: VRTC

11SENS010000VO00

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

SCAB TIMING IND

Date: 06/17/2013

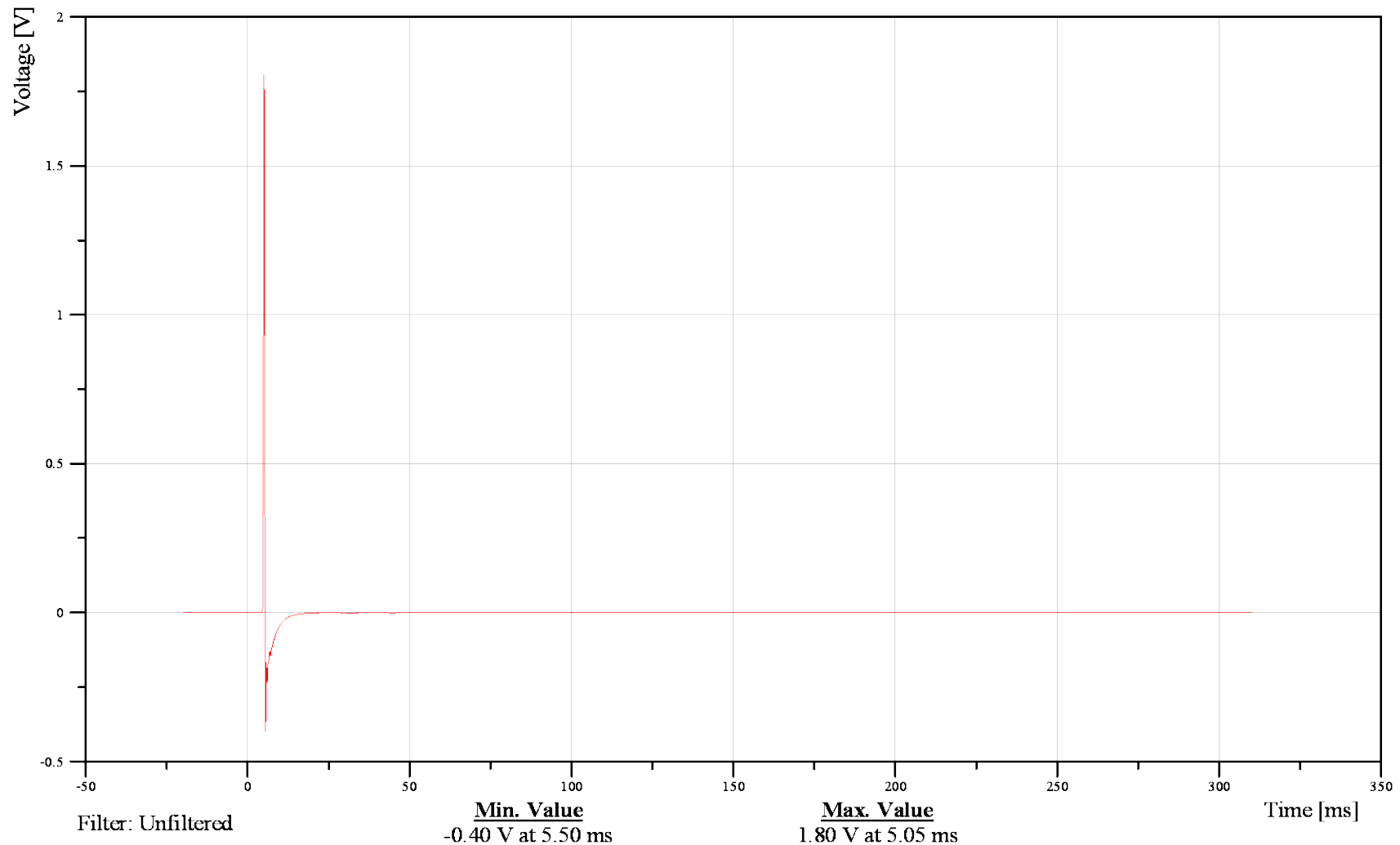
Time: 08:43

Customer: VRTC

11SENS020000VO00

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Date: 06/17/2013

Time: 08:43

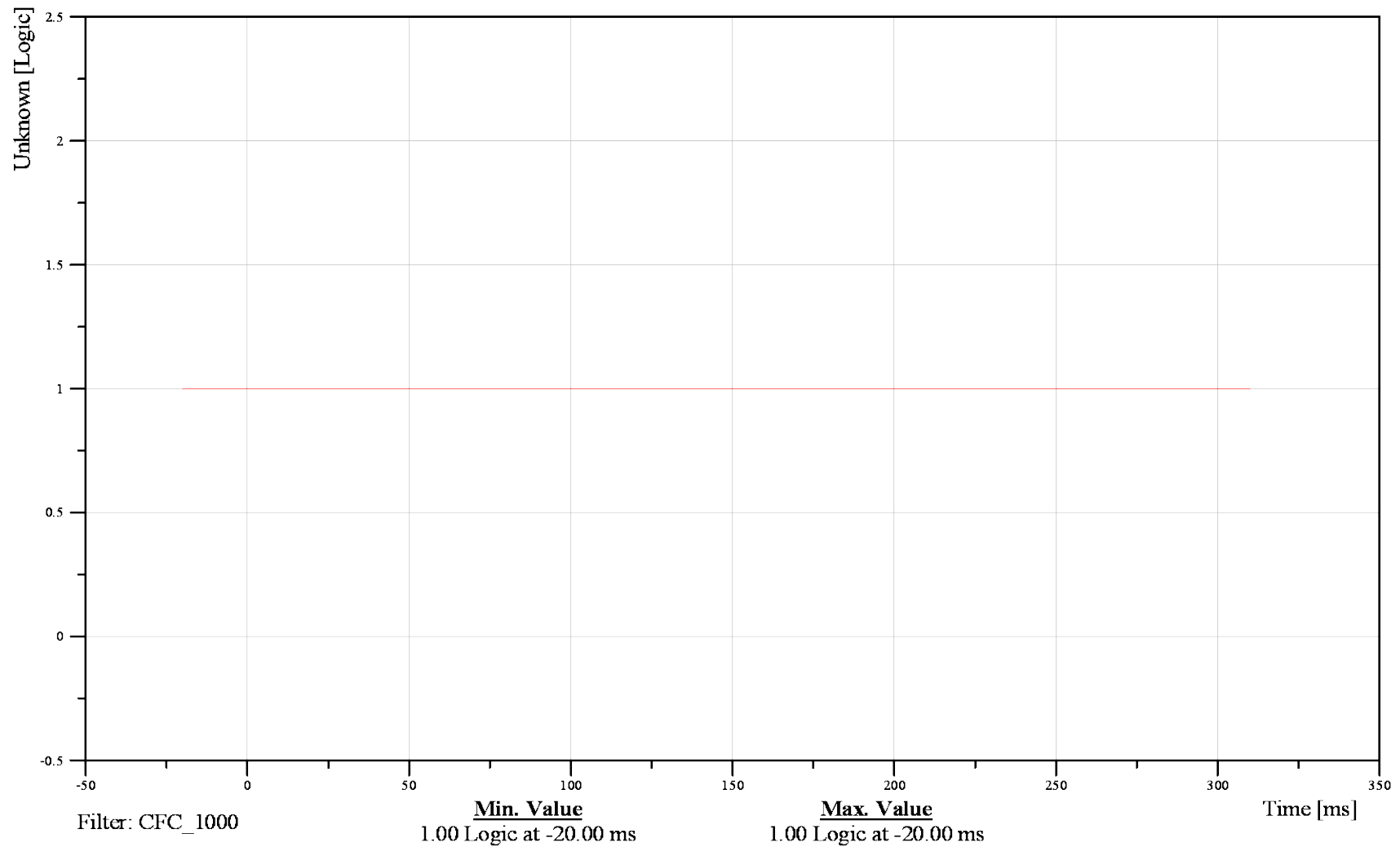
Head Contact

Customer: VRTC

11HEADCONT00VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Contact

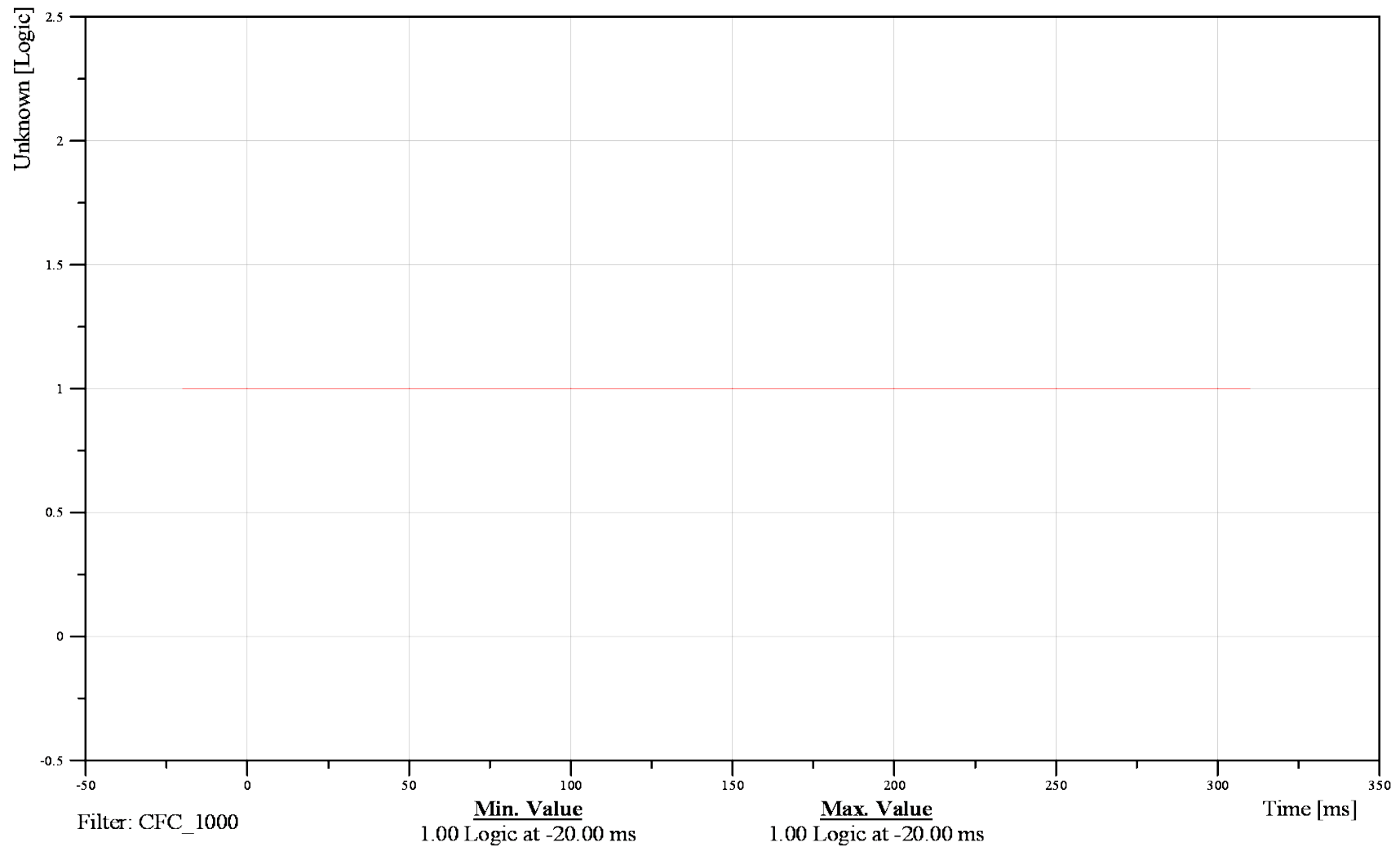
Date: 06/17/2013
Time: 08:43

Customer: VRTC

11SHLDCONT00VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Contact

Date: 06/17/2013

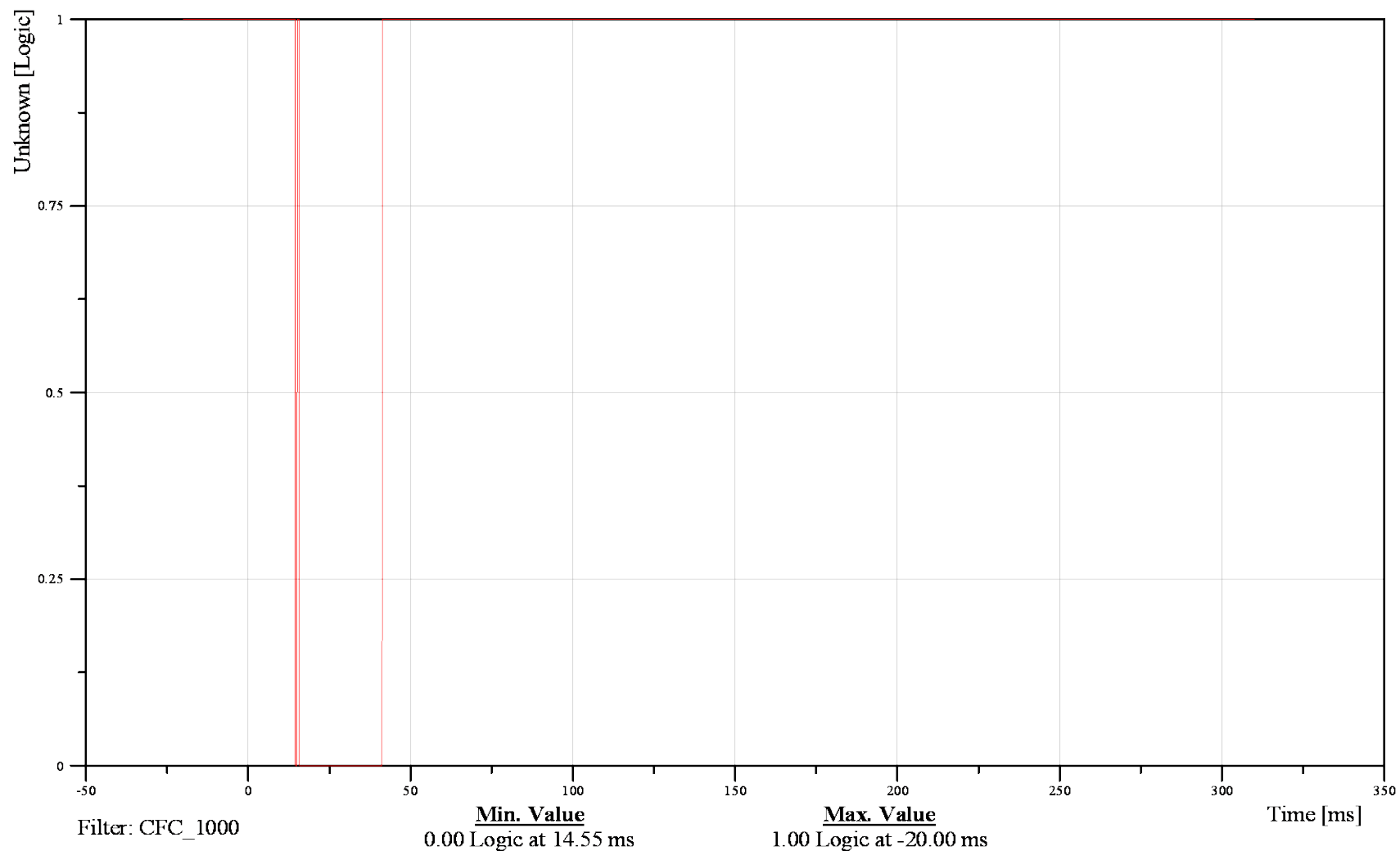
Time: 08:43

Customer: VRTC

11THORCONT00VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Date: 06/17/2013

Time: 08:43

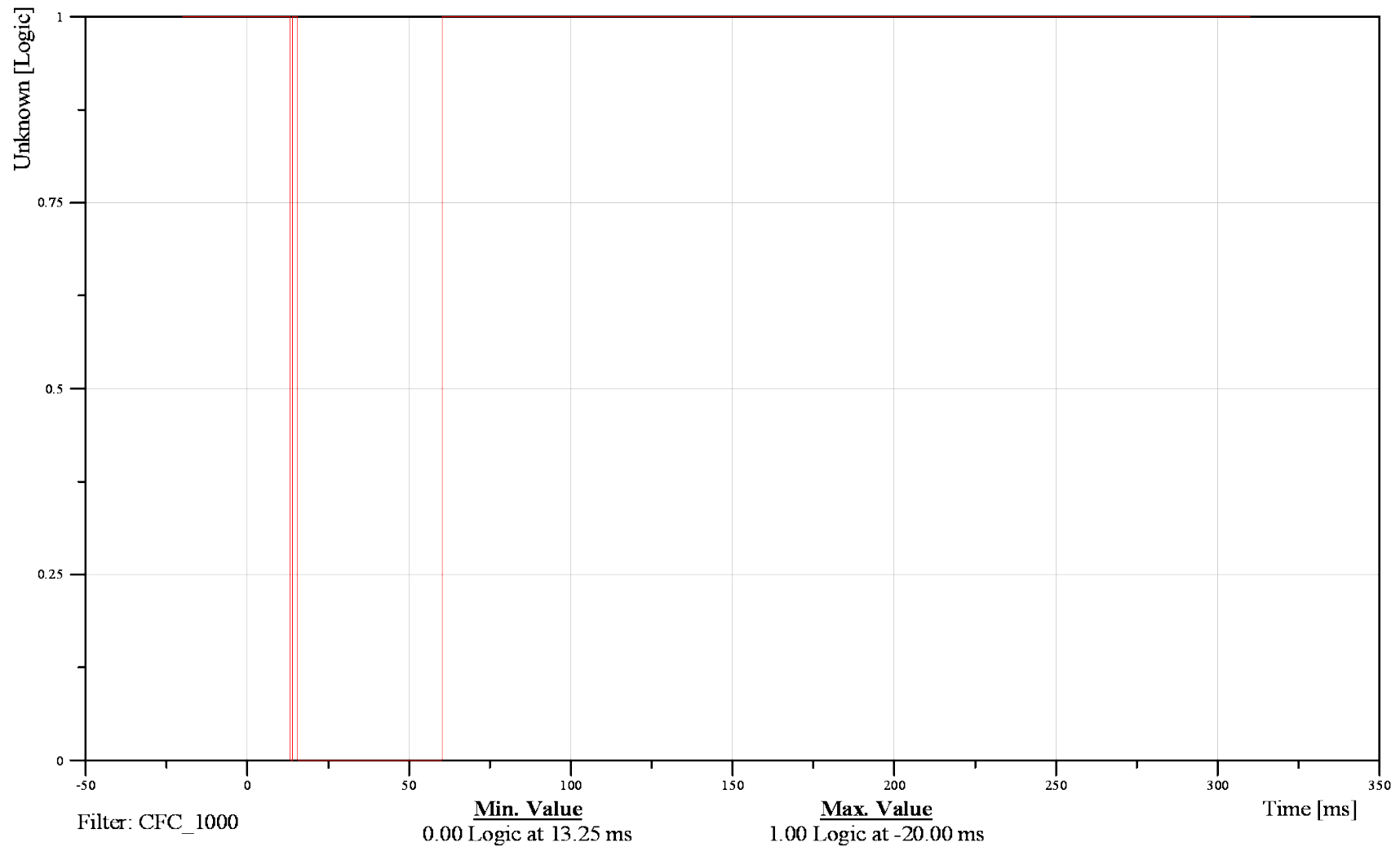
Leg Contact

Customer: VRTC

11LEGCONT000VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Date: 06/17/2013

Time: 08:43

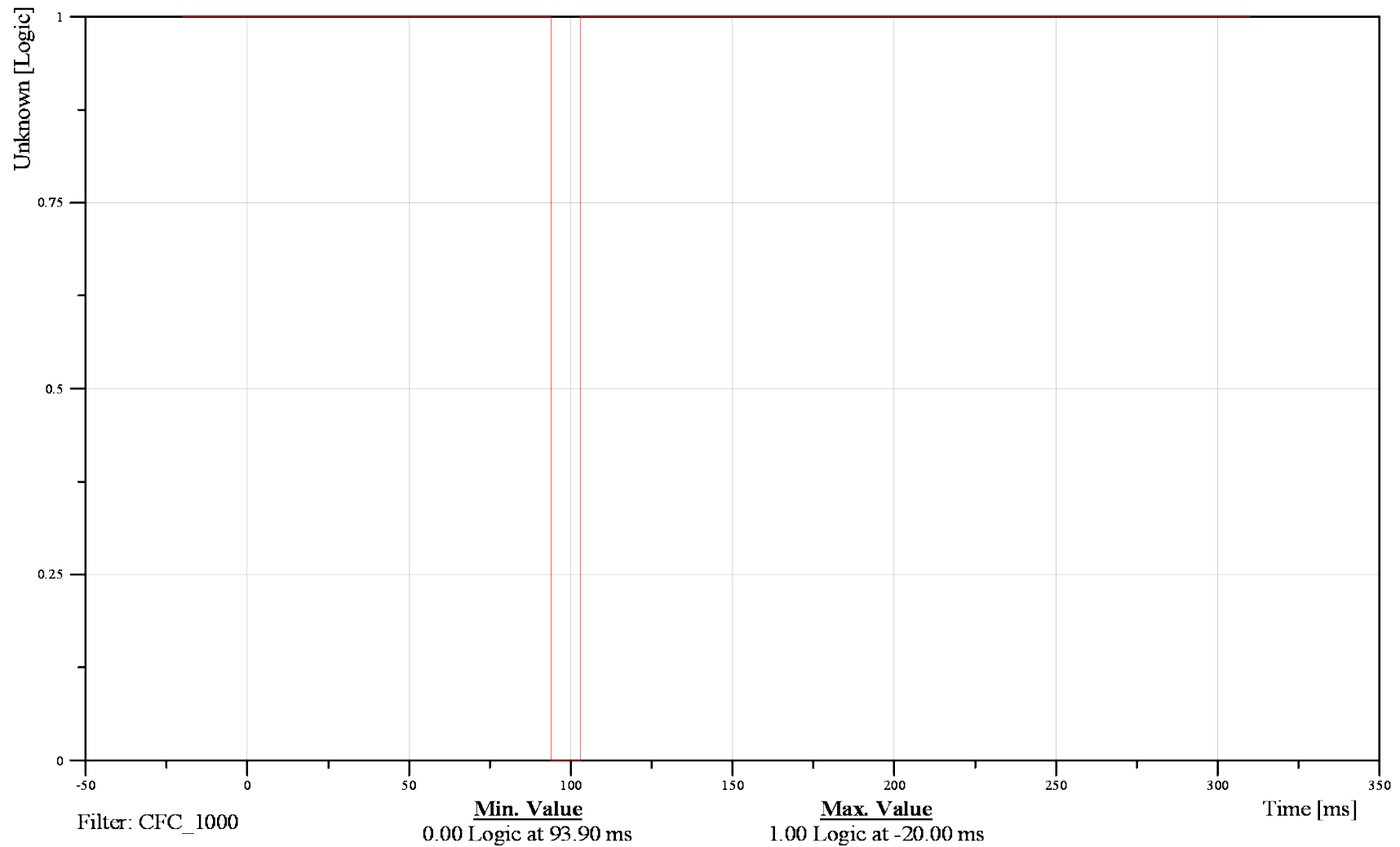
Head Contact

Customer: VRTC

14HEADCONT00VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Shoulder Contact

Date: 06/17/2013

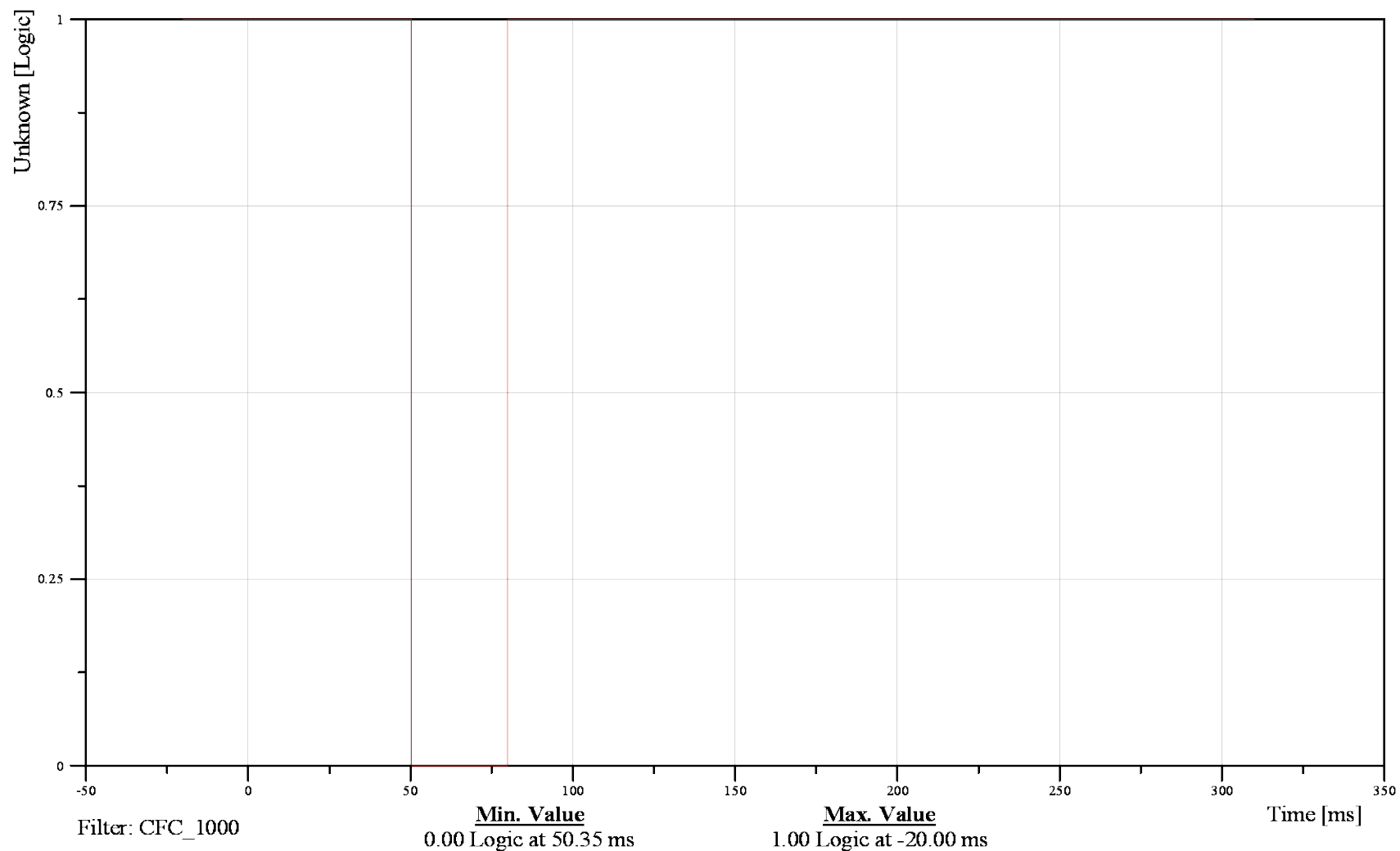
Time: 08:43

Customer: VRTC

14SHLDCONT00VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Thorax Contact

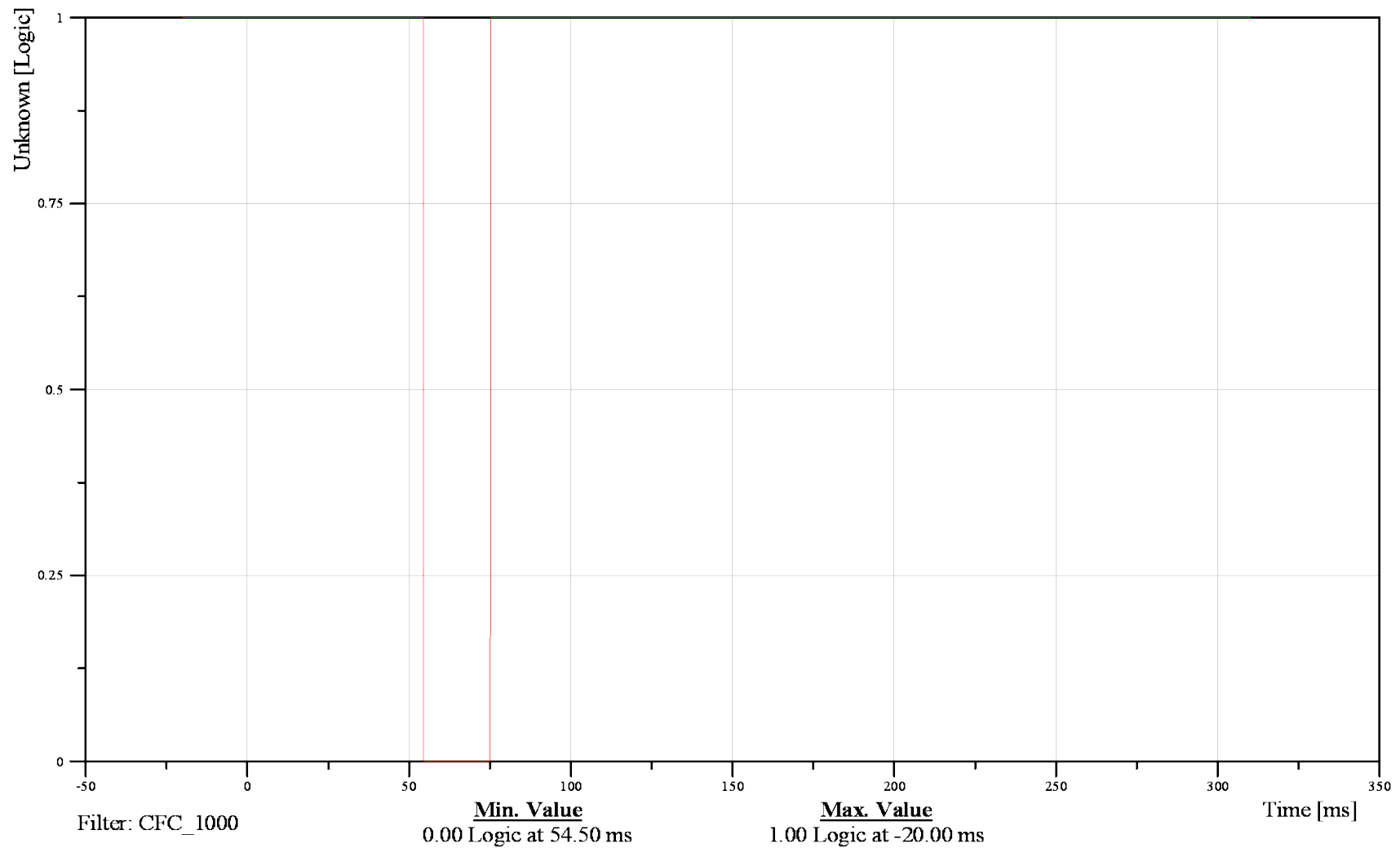
Date: 06/17/2013
Time: 08:43

Customer: VRTC

14THORCONT00VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Date: 06/17/2013
Time: 08:43

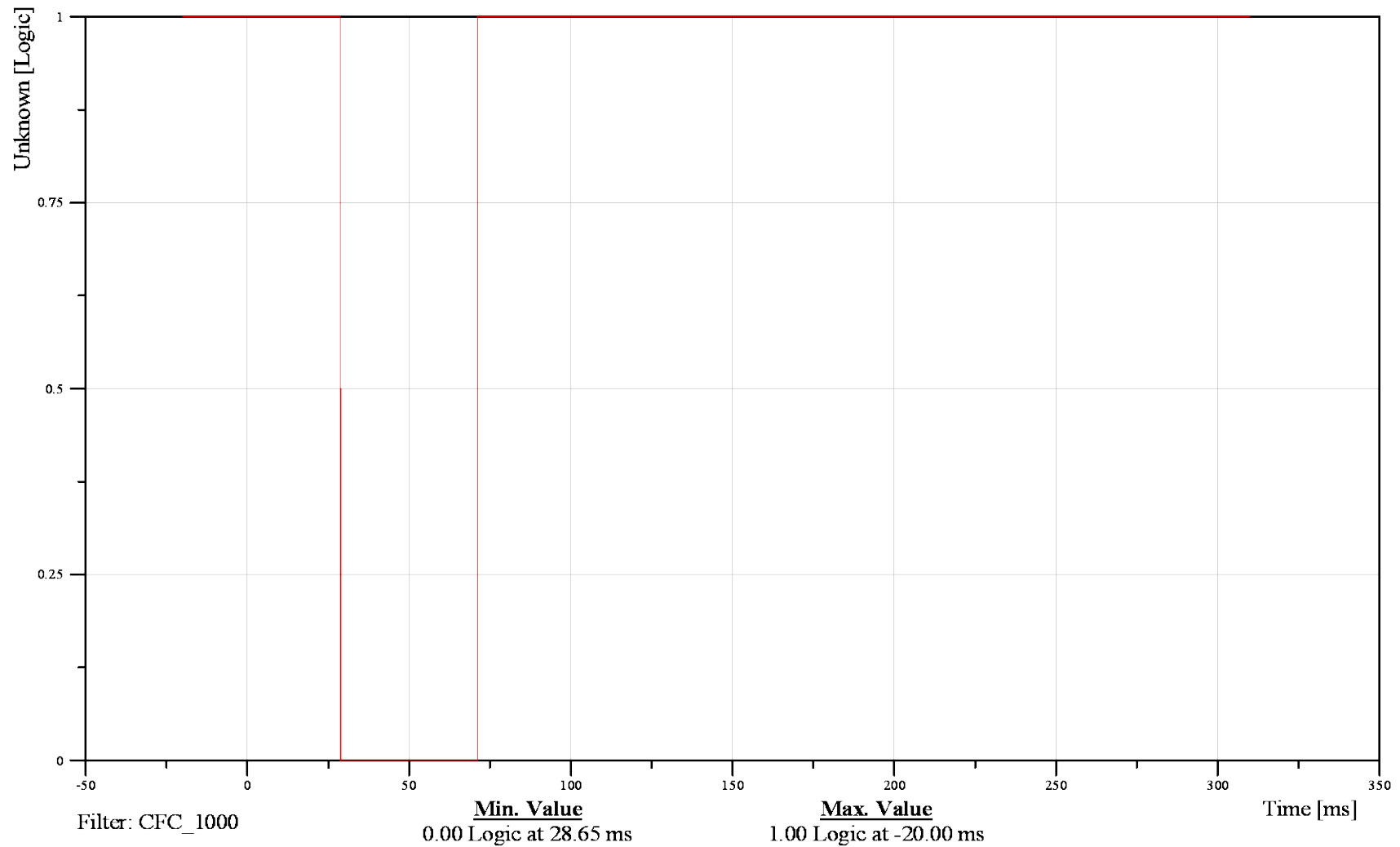
Leg Contact

Customer: VRTC

14LEGCONT000VO0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Contact Frnt

Date: 06/17/2013

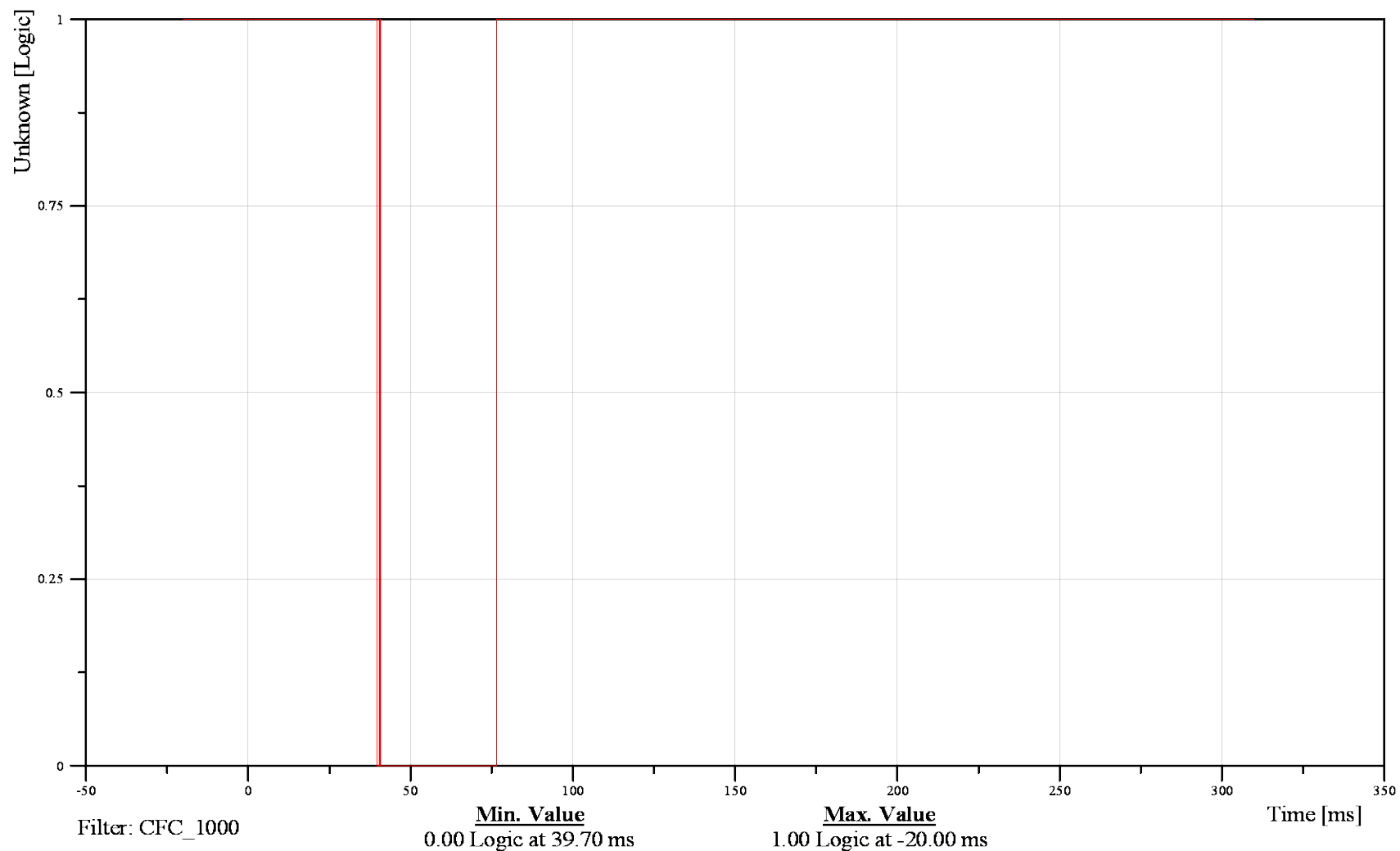
Time: 08:43

Customer: VRTC

14PELVFR00WFEV0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Contact Mid

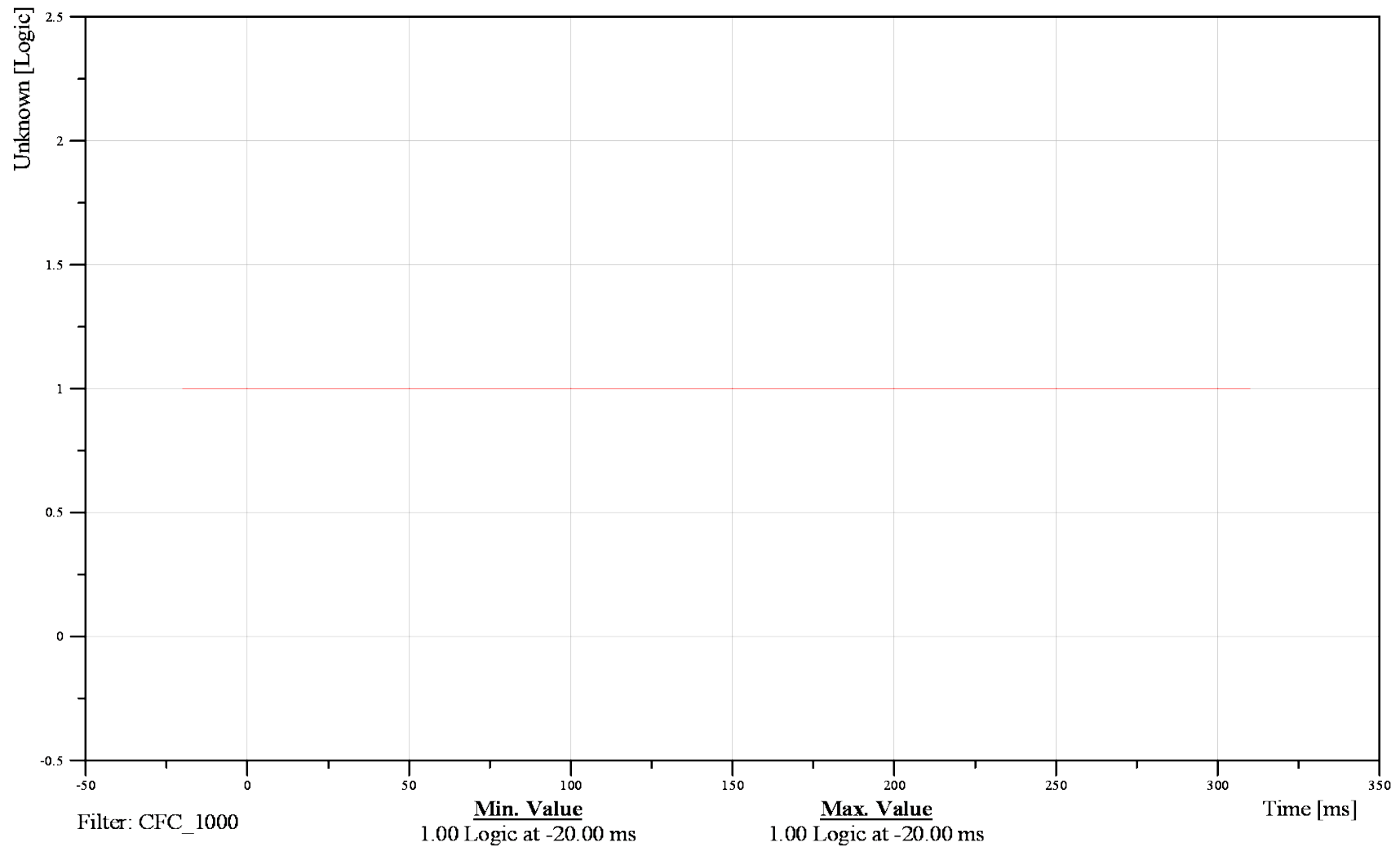
Date: 06/17/2013
Time: 08:43

Customer: VRTC

14PELVM100WFEV0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

Pelvis Contact Rear

Date: 06/17/2013

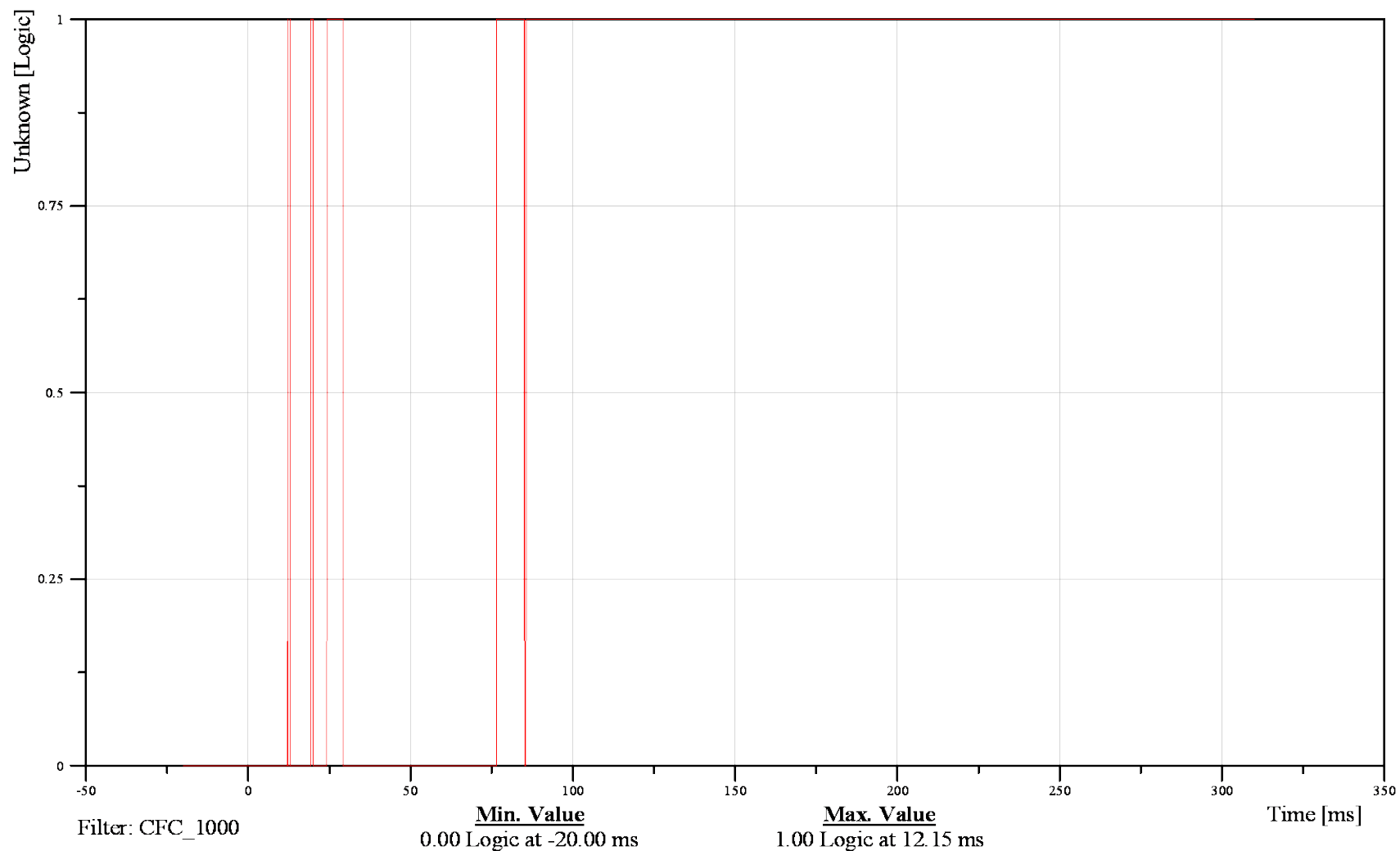
Time: 08:43

Customer: VRTC

14PELVRE00WFEV0A

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

MDB CG AX

Date: 06/17/2013

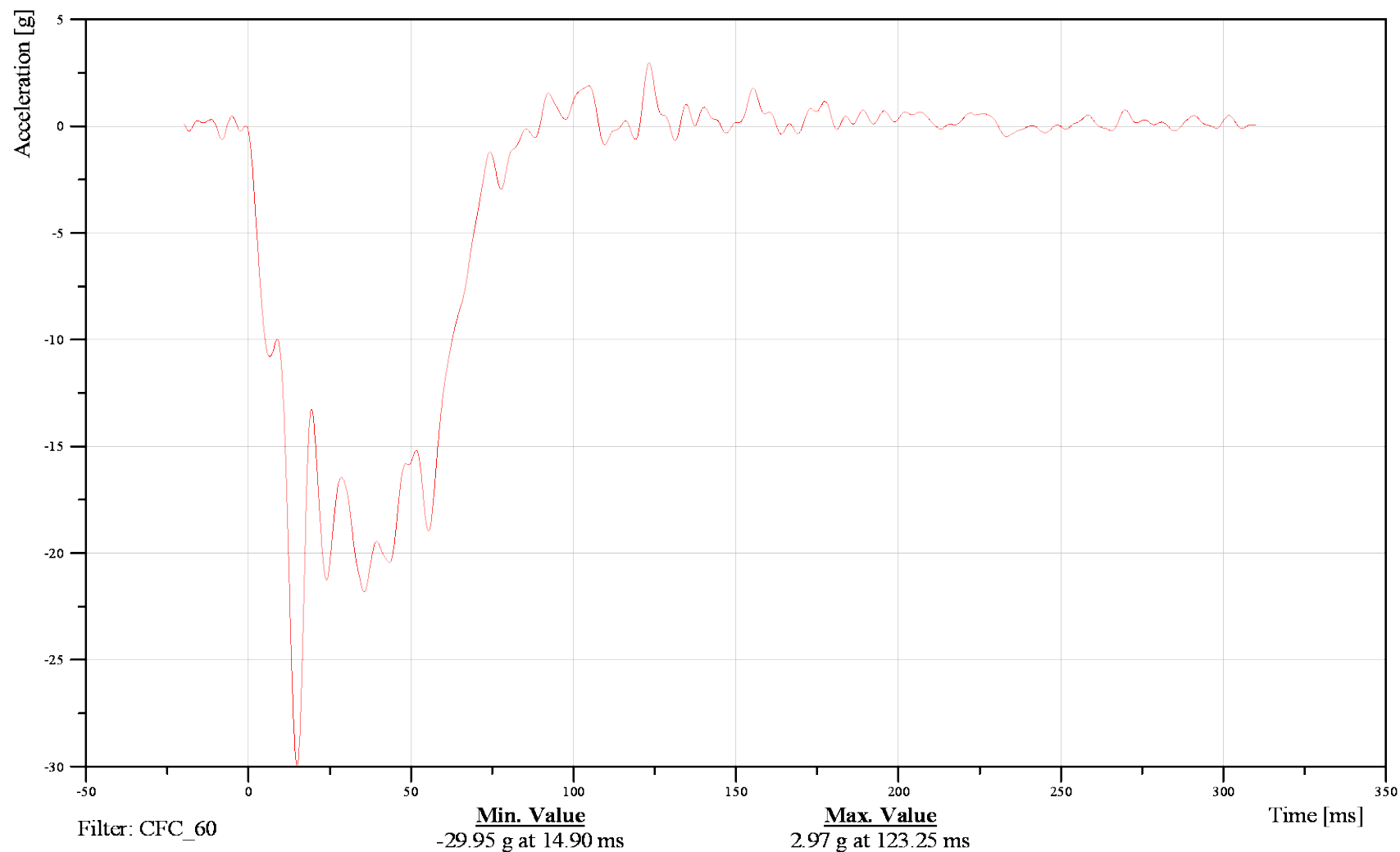
Time: 08:43

Customer: VRTC

M0MBARCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

MDB CG AY

Date: 06/17/2013

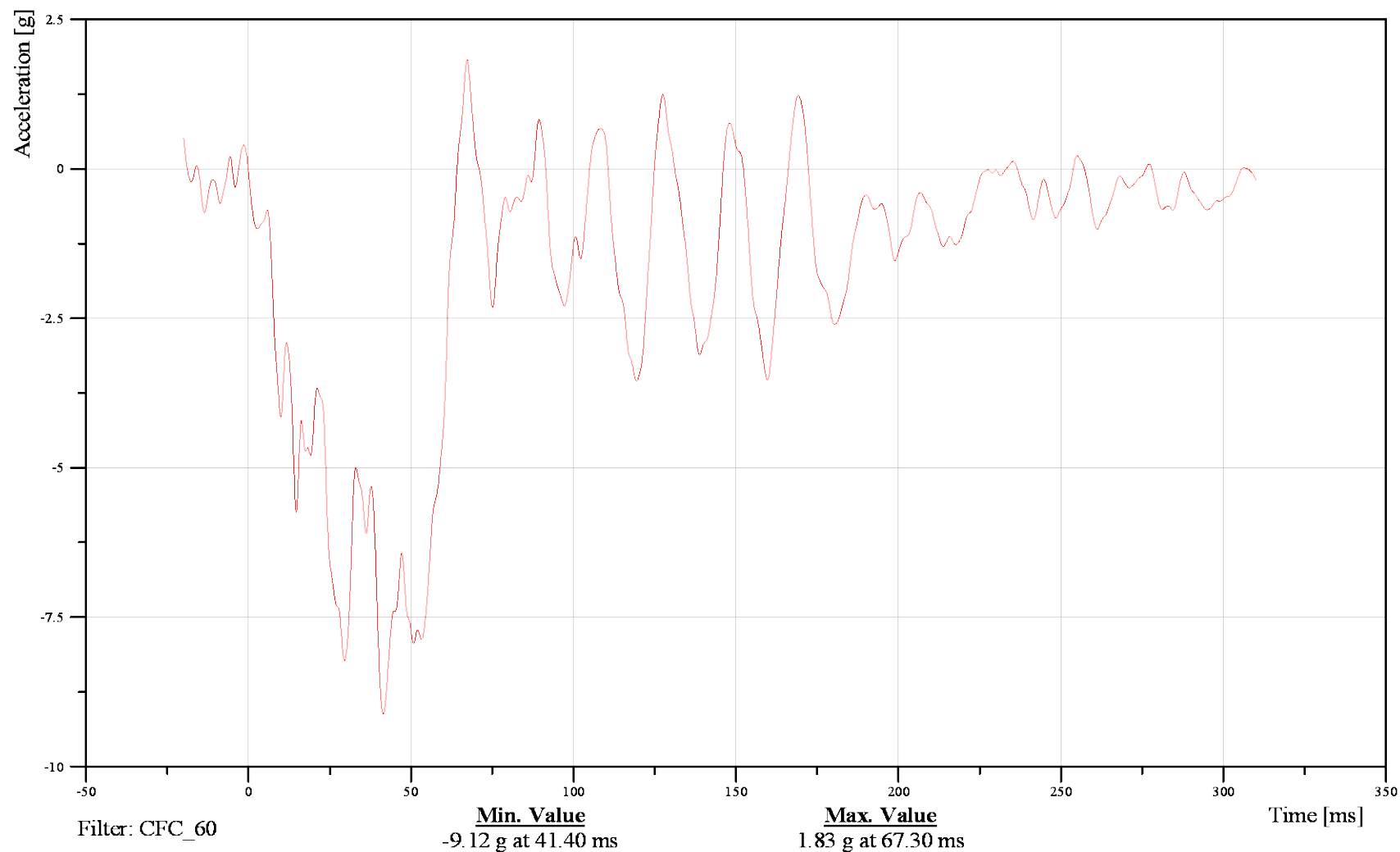
Time: 08:43

Customer: VRTC

M0MBARCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

MDB CG AZ

Date: 06/17/2013

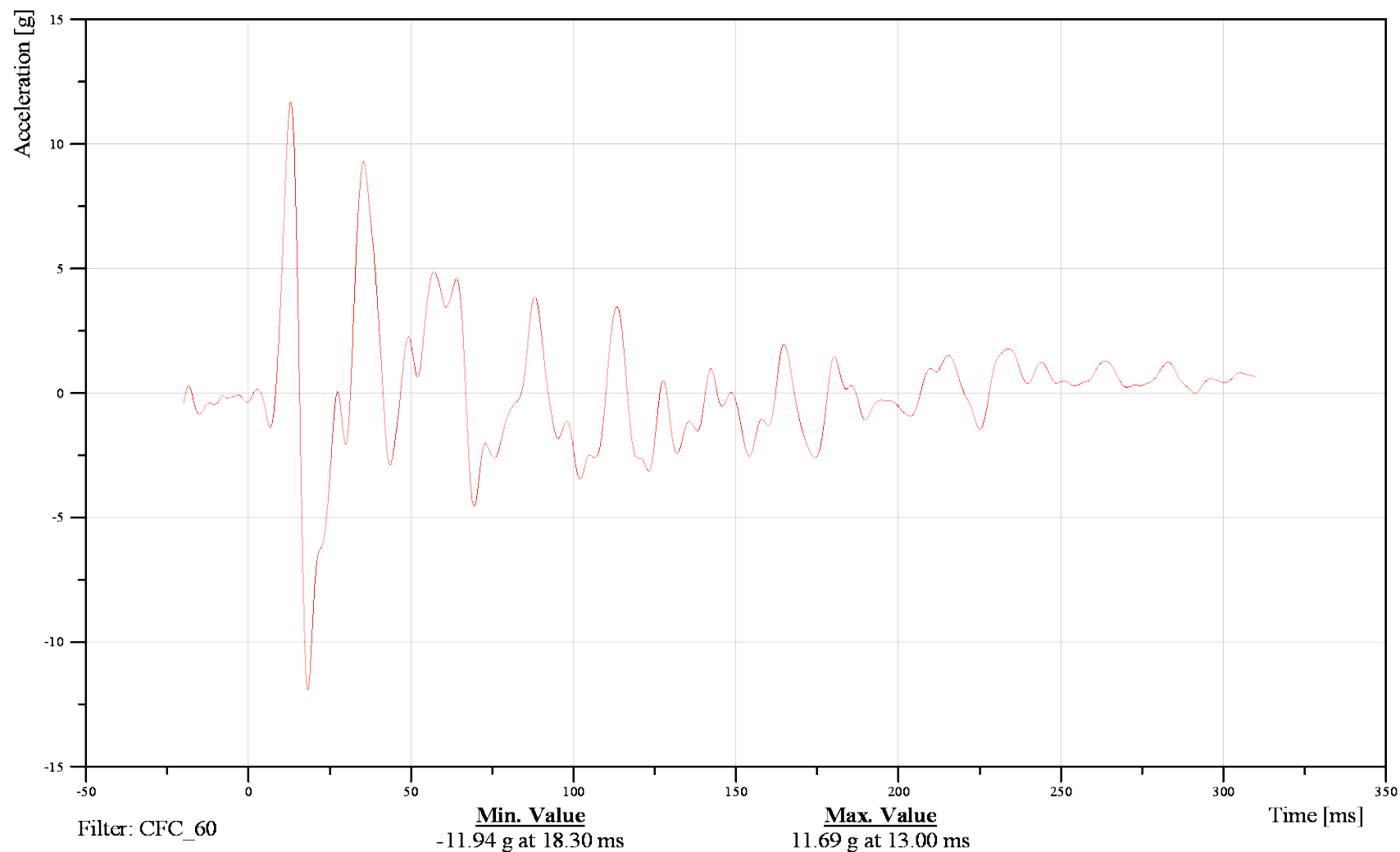
Time: 08:43

Customer: VRTC

M0MBCRCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

MDB CG A Resultant

Date: 06/17/2013

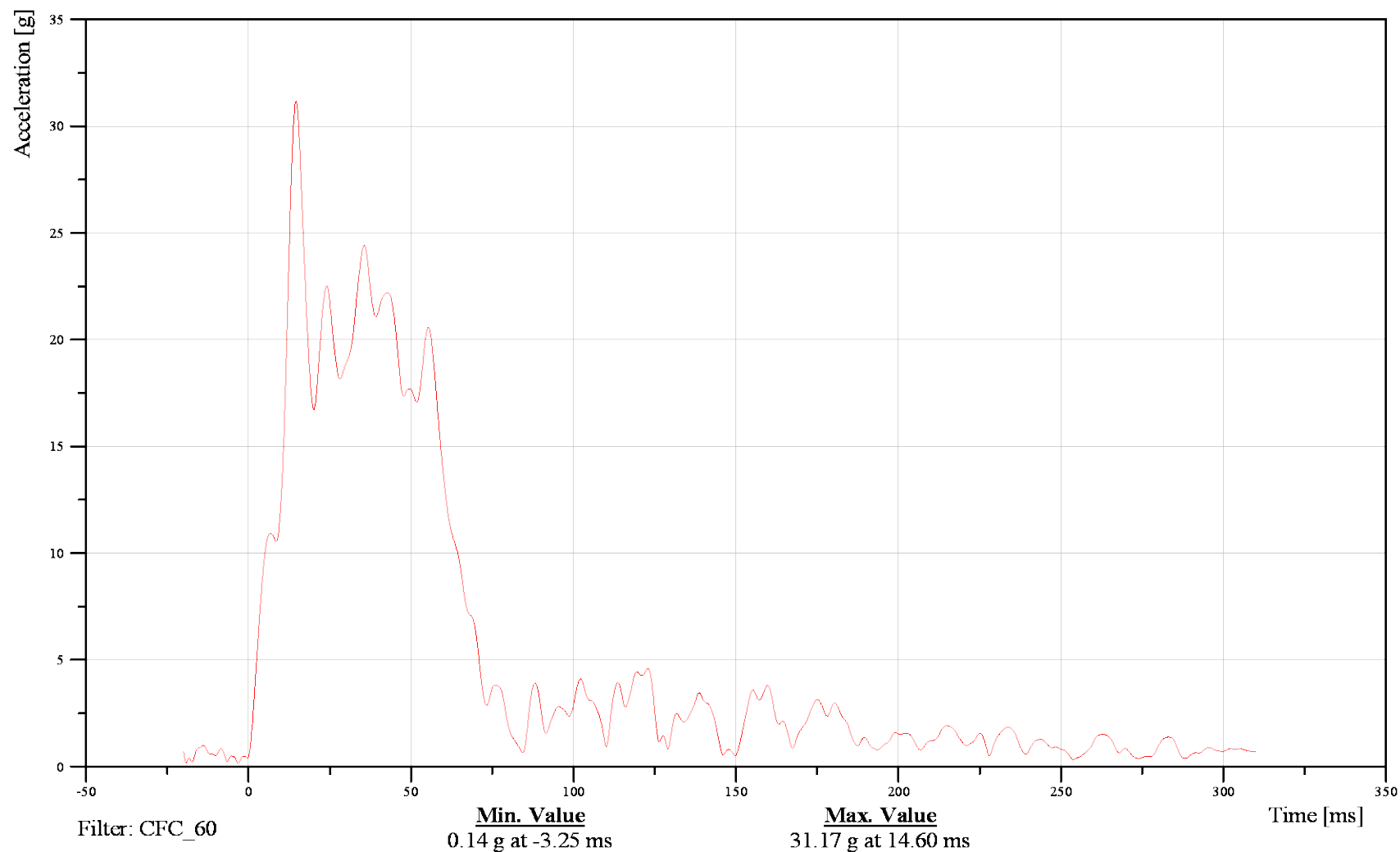
Time: 08:43

Customer: VRTC

M0MBARCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

MDB REAR AX

Date: 06/17/2013

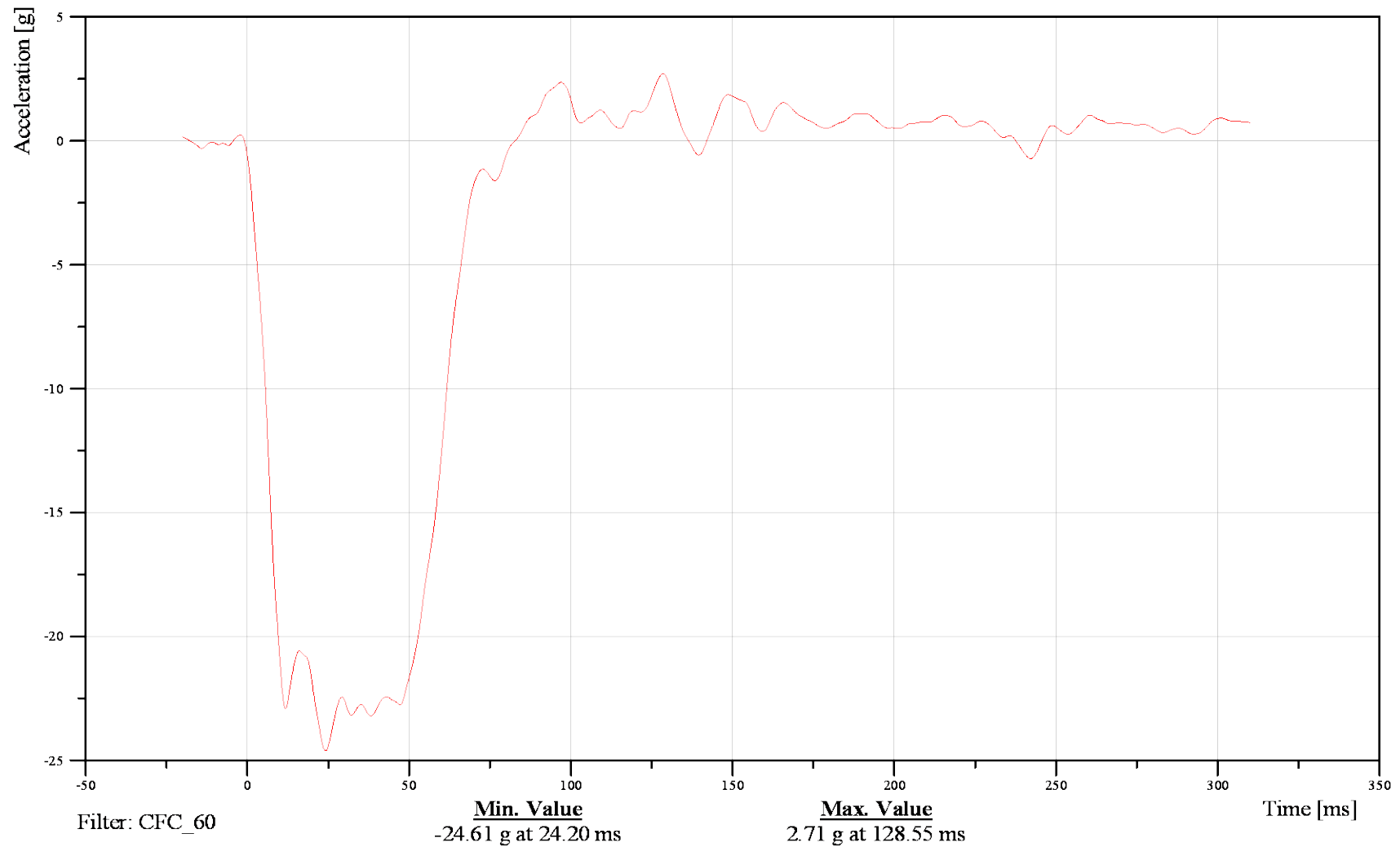
Time: 08:43

Customer: VRTC

M0FRAMRE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120906





FMVSS 214 Side Impact 2011 Jeep Grand Cherokee

MDB REAR AY

Date: 06/17/2013

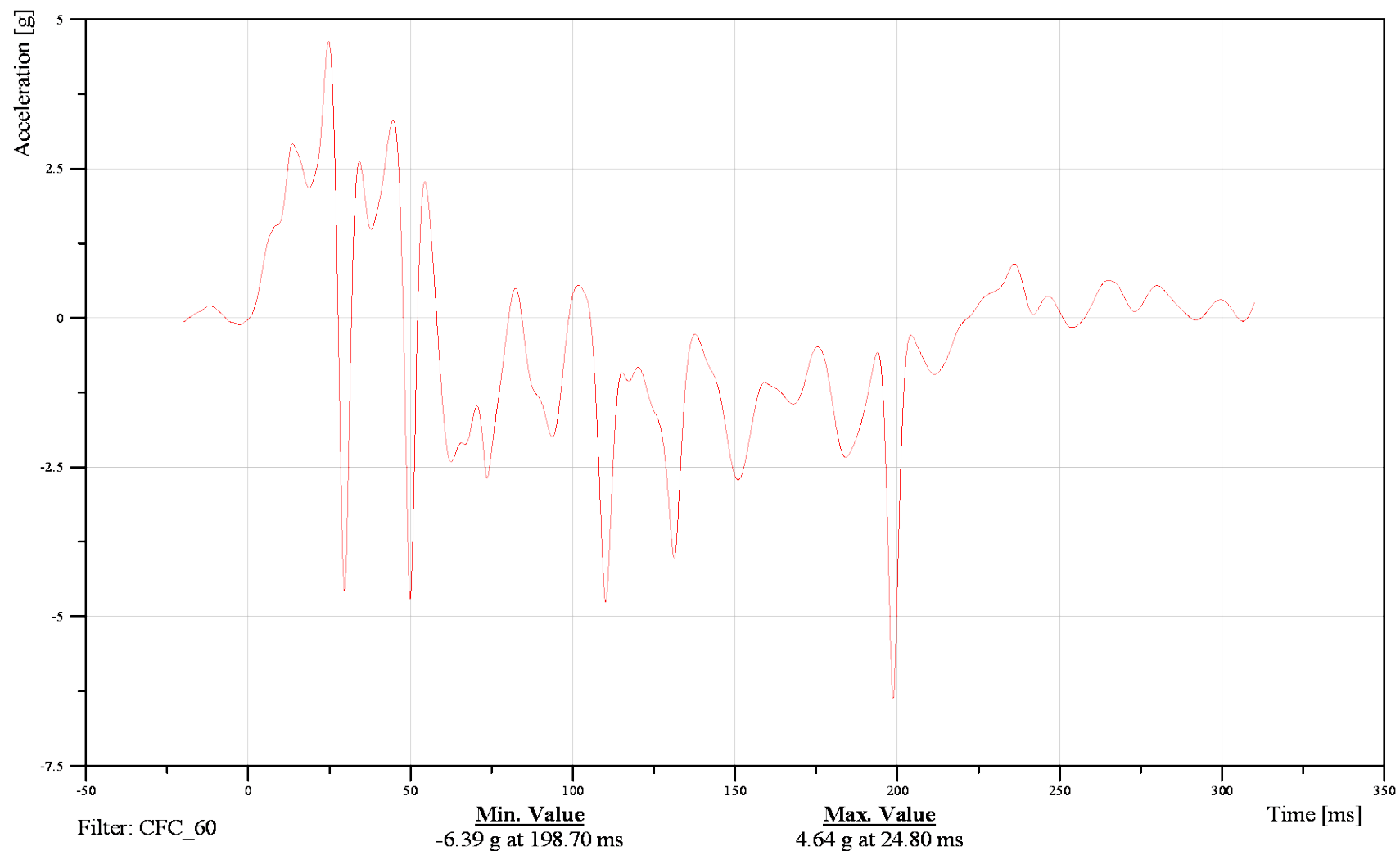
Time: 08:43

Customer: VRTC

M0FRAMRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120906



Appendix C

WorldSID Configuration and Performance Verification Data

Calibration Test Results

Pre-Test

WorldSID: WS-014

Configured for Left Side Impact

Transportation Research Center Inc.

Front Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	37 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	258.7 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-2.2 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

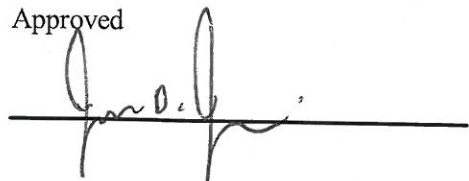
Test meets specifications.

Comments:

Technician



Approved



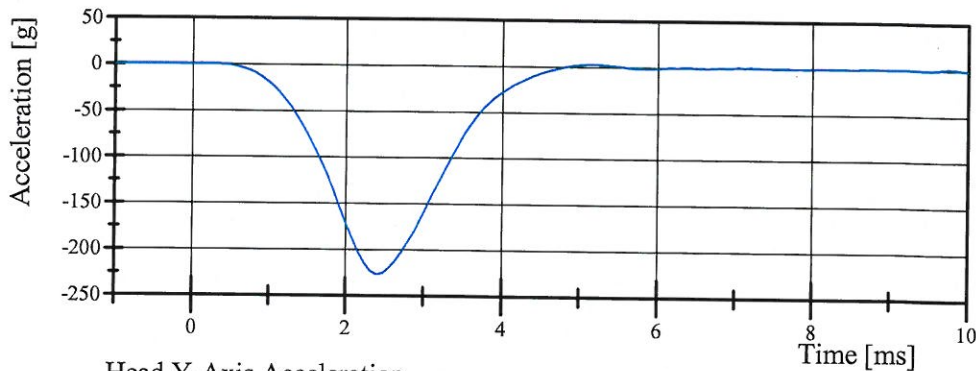
Transportation Research Center Inc.

Front Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

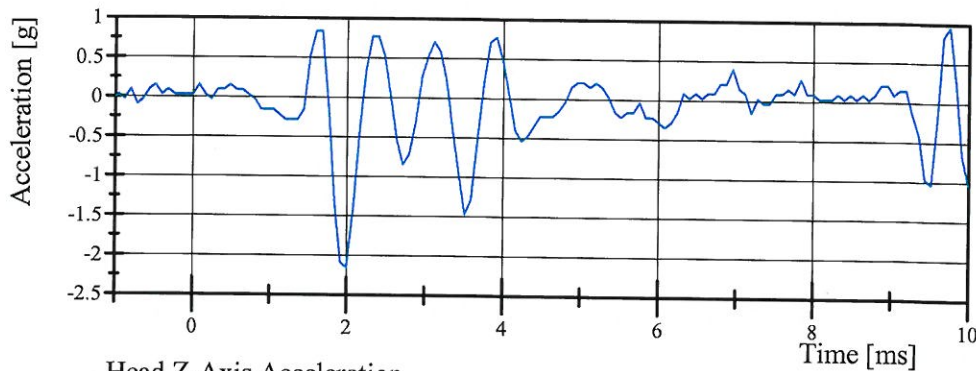
Test Date: 6/14/2012

Head X-Axis Acceleration



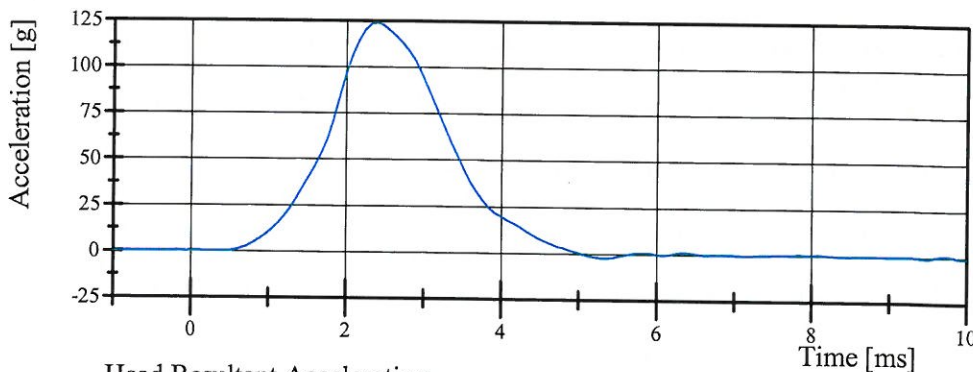
Filter Class: CFC_1000
Max: 2.5 gn at 5.1 ms
Min: -227.0 gn at 2.4 ms

Head Y-Axis Acceleration



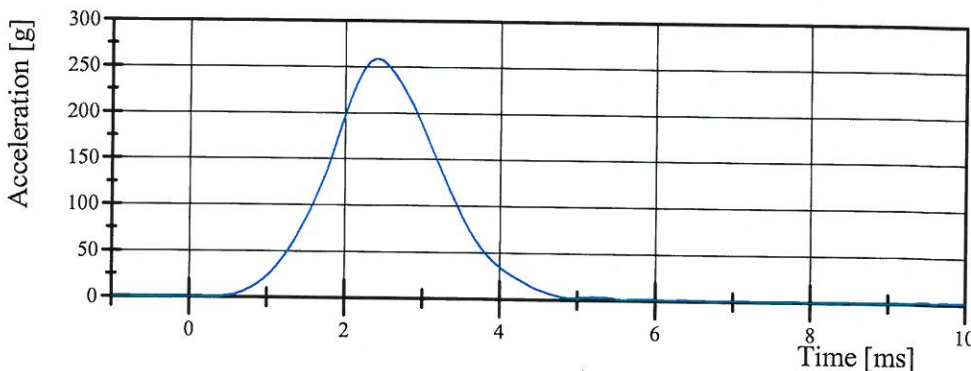
Filter Class: CFC_1000
Max: 1.0 gn at 9.8 ms
Min: -2.2 gn at 2.0 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 124.0 gn at 2.4 ms
Min: -2.3 gn at 5.4 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 258.7 gn at 2.4 ms
Min: 0.0 gn at -1.0 ms

Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	116.6 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-3.1 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

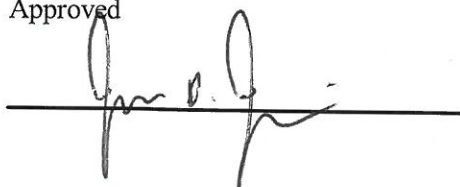
Test meets specifications.

Comments:

Technician



Approved



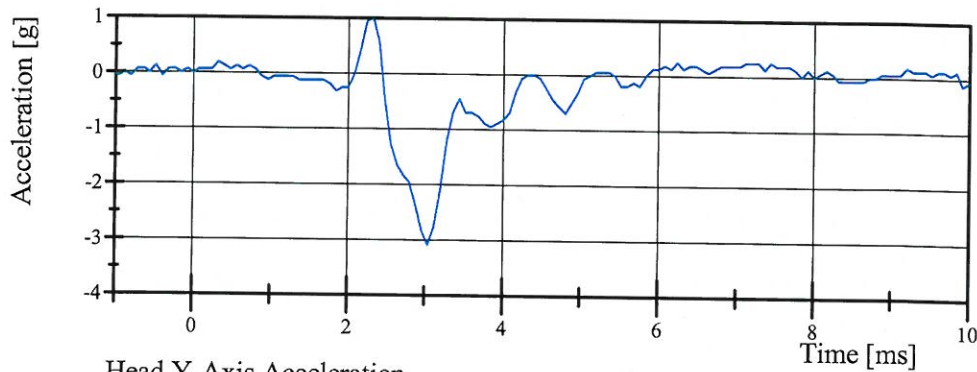
Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/14/2012

Head X-Axis Acceleration

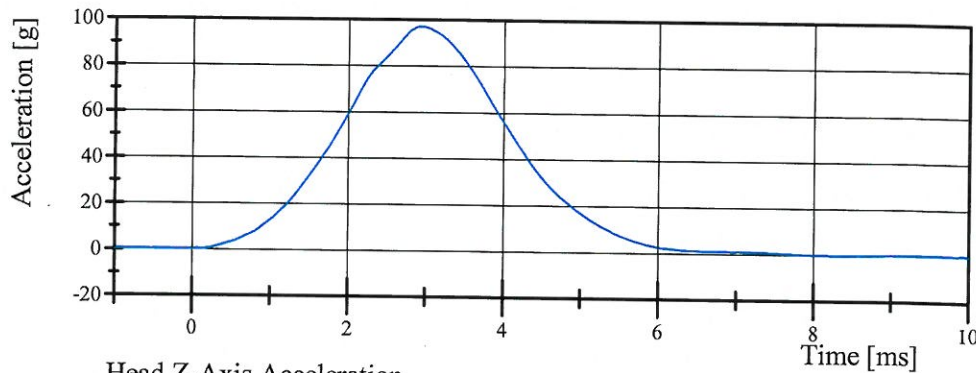


Filter Class: CFC_1000

Max: 1.0 gn at 2.3 ms

Min: -3.1 gn at 3.0 ms

Head Y-Axis Acceleration

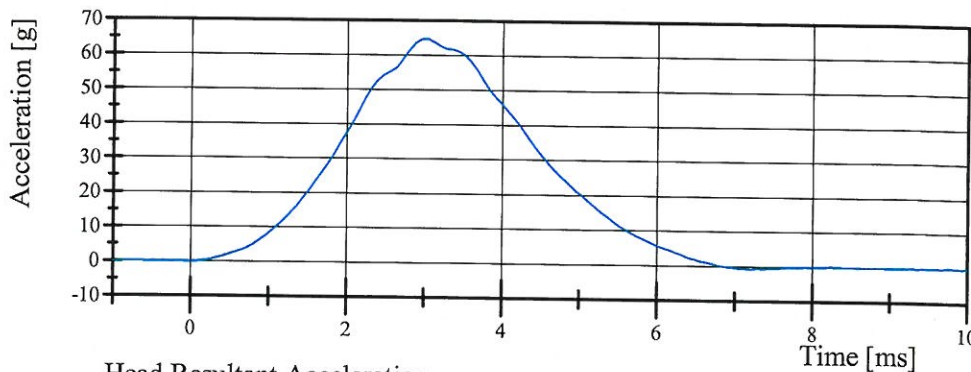


Filter Class: CFC_1000

Max: 97.1 gn at 3.0 ms

Min: -0.3 gn at 8.3 ms

Head Z-Axis Acceleration

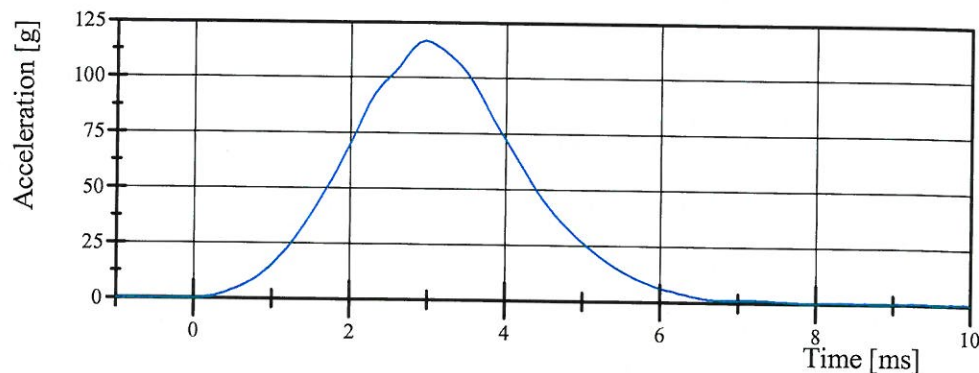


Filter Class: CFC_1000

Max: 64.6 gn at 3.0 ms

Min: -0.8 gn at 7.2 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 116.6 gn at 3.0 ms

Min: 0.0 gn at -0.9 ms

Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

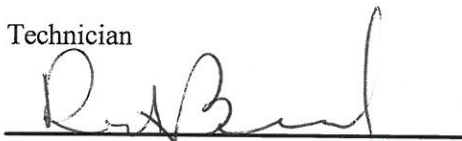
Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	119.5 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	8.1 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

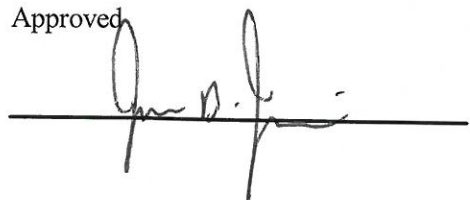
Test meets specifications.

Comments:

Technician



Approved



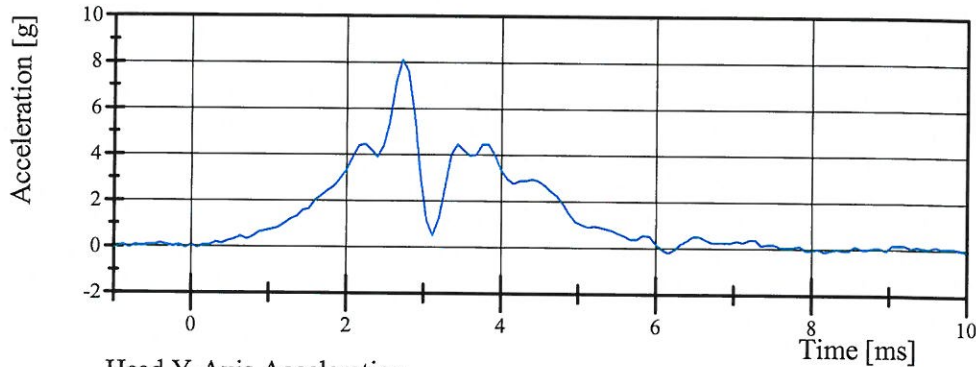
Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/14/2012

Head X-Axis Acceleration

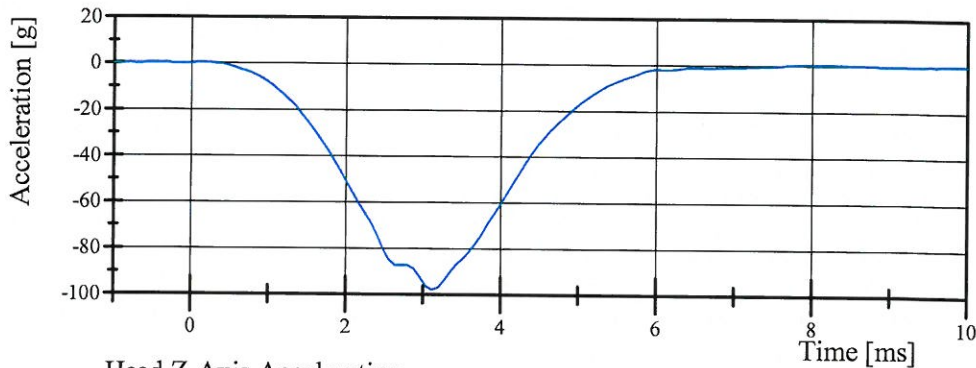


Filter Class: CFC_1000

Max: 8.1 gn at 2.7 ms

Min: -0.2 gn at 6.2 ms

Head Y-Axis Acceleration

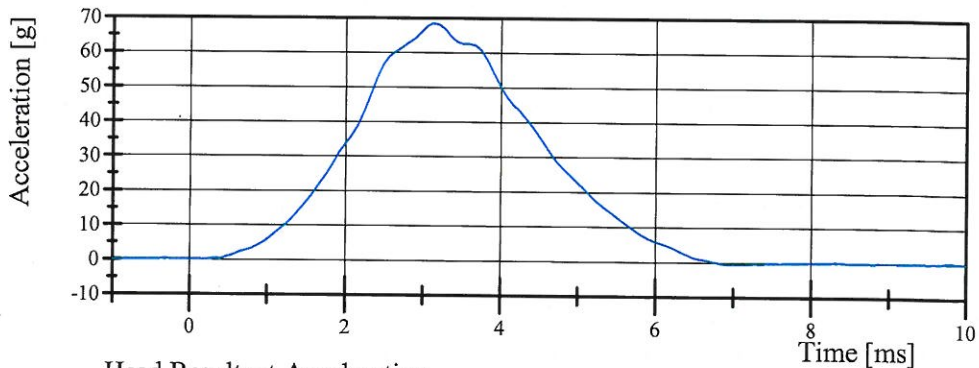


Filter Class: CFC_1000

Max: 0.6 gn at 7.9 ms

Min: -98.0 gn at 3.1 ms

Head Z-Axis Acceleration

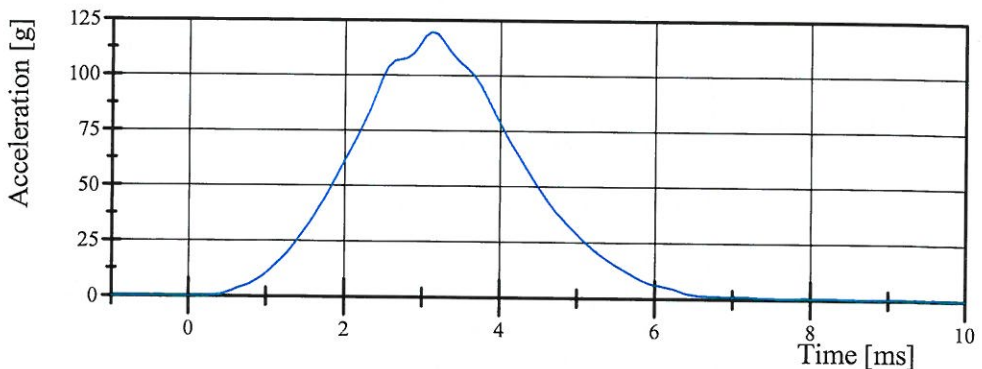


Filter Class: CFC_1000

Max: 68.4 gn at 3.1 ms

Min: -0.6 gn at 7.1 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 119.5 gn at 3.1 ms

Min: 0.1 gn at -0.5 ms

Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

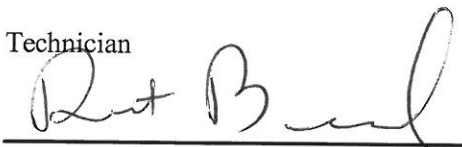
Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.49 m/s	Yes
Pendulum Integrated Velocity			
Change at 4 ms	0.77 - 1.04 m/s	0.846 m/s	Yes
Change at 8 ms	1.6 - 2.16 m/s	1.786 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	2.787 m/s	Yes
Maximum Headform Flexion	(-50) - (-61) deg	-54.7 deg	Yes
Headform Flexion Decay			
- from Peak to Zero Degrees	58 - 72 ms	61.0 ms	Yes
Total Neck Occipital Condyles Moment	55 - 68 N·m	66.4 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	71 - 87 ms	79.0 ms	Yes
Maximum Forward Pot Rotation			
Peak	(-32) - (-39) °	-35.8 °	Yes
Time of Peak	56 - 68 ms	60.5 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-30) - (-37) °	-31.8 °	Yes
Time of Peak	56 - 68 ms	60.6 ms	Yes

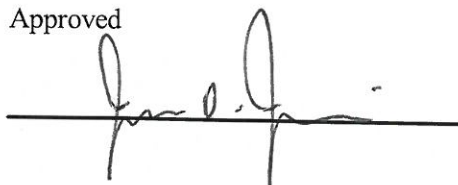
Test meets specifications.

Comments:

Technician



Approved



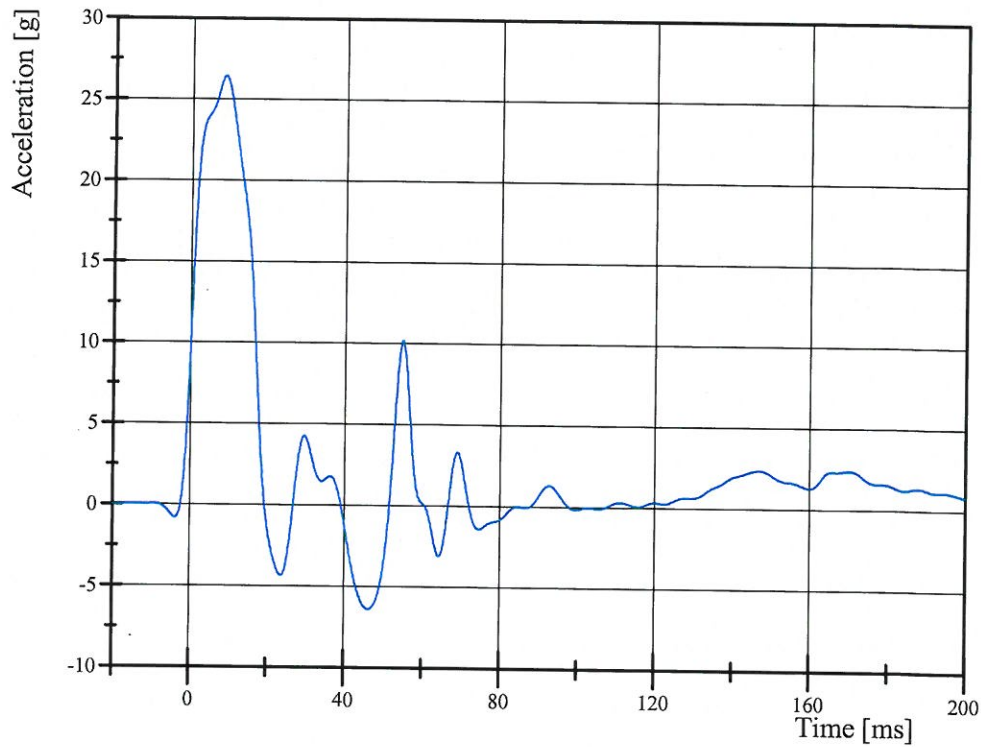
Transportation Research Center Inc.

Left Lateral Neck

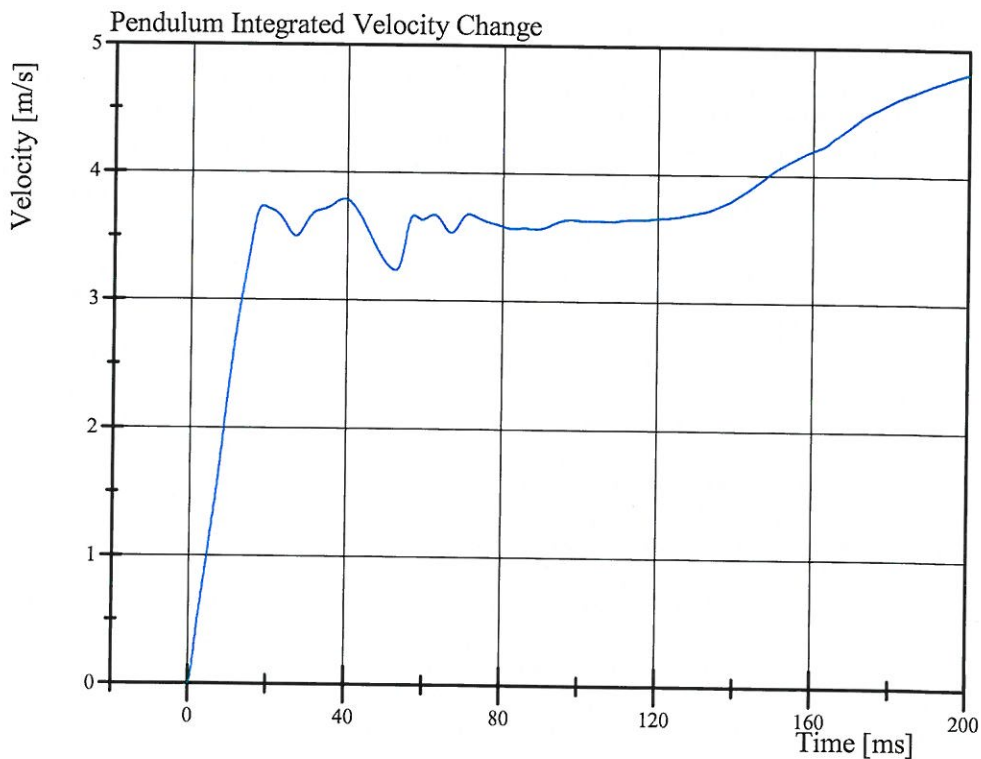
WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/14/2012

Pendulum Acceleration



Filter Class: CFC_60
Max: 26.4 gn at 8.6 ms
Min: -6.4 gn at 46.3 ms



Filter Class: CFC_180
Max: 4.8 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

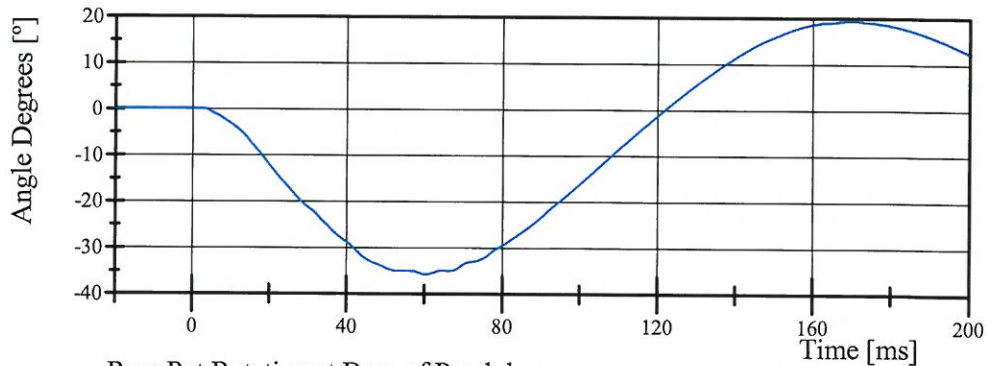
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

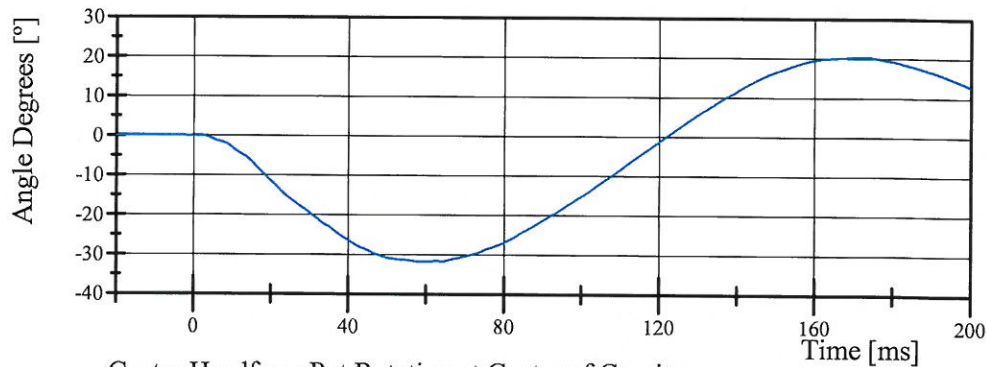
Test Date: 6/14/2012

Forward Pot Rotation at Base of Pendulum



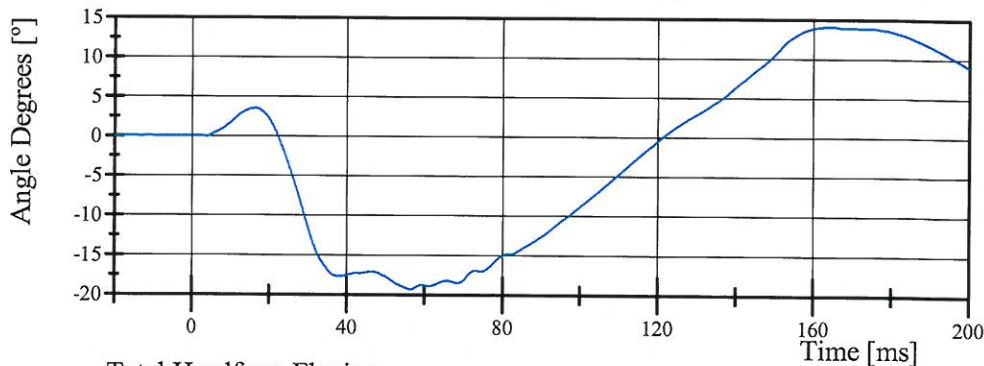
Filter Class: CFC_180
Max: 19.4 ° at 170.1 ms
Min: -35.8 ° at 60.5 ms

Rear Pot Rotation at Base of Pendulum



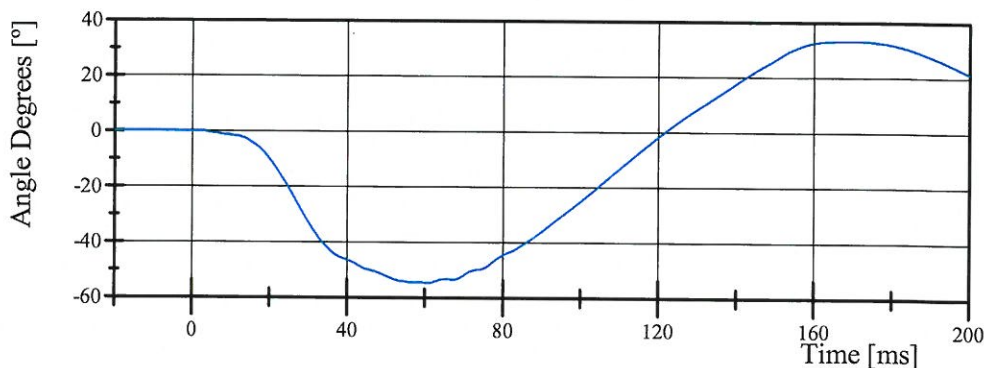
Filter Class: CFC_180
Max: 20.4 ° at 172.3 ms
Min: -31.8 ° at 60.6 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_180
Max: 14.1 ° at 164.4 ms
Min: -19.3 ° at 56.4 ms

Total Headform Flexion



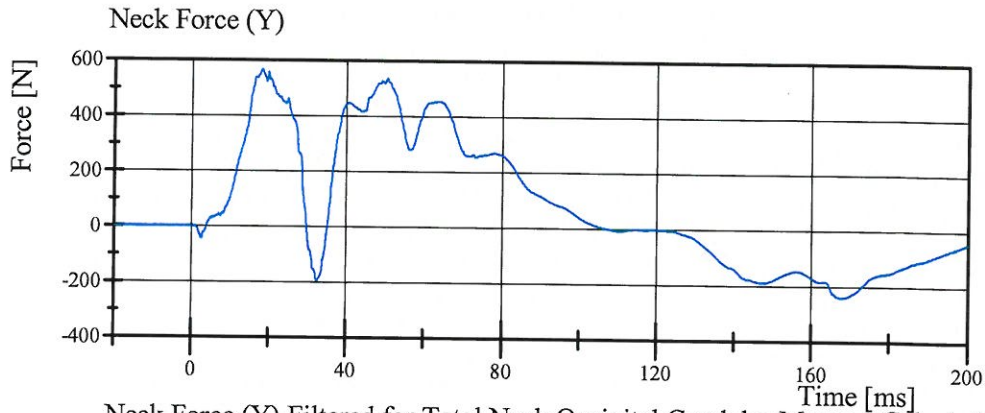
Filter Class: CFC_180
Max: 33.3 ° at 169.6 ms
Min: -54.7 ° at 60.7 ms

Transportation Research Center Inc.

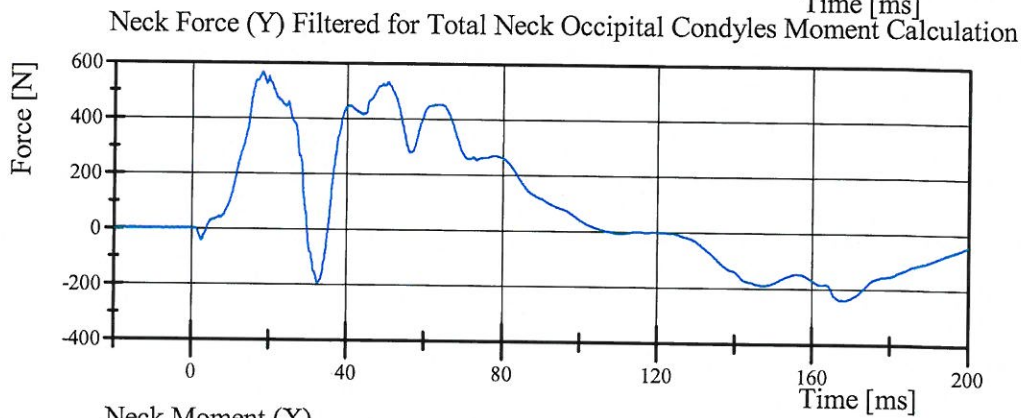
Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

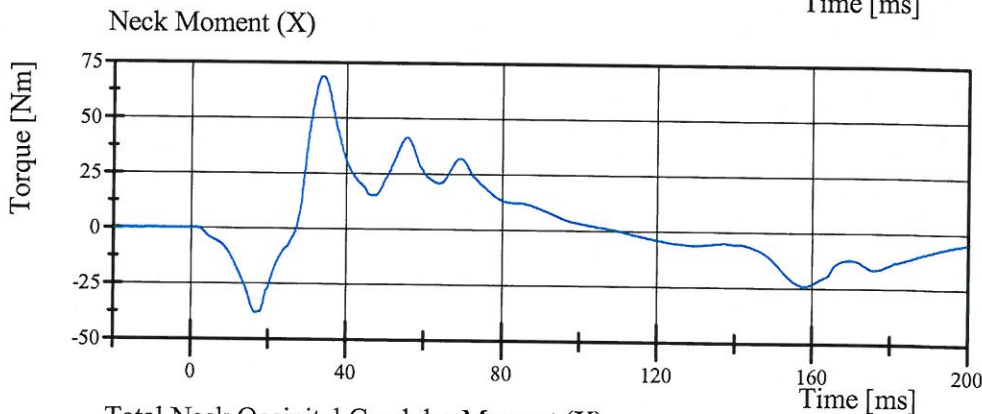
Test Date: 6/14/2012



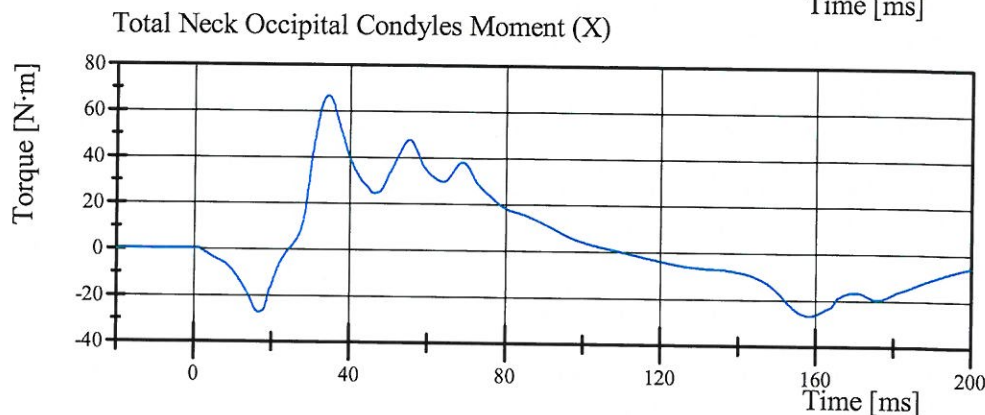
Filter Class: CFC_1000
Max: 565.5 N at 18.2 ms
Min: -240.1 N at 167.6 ms



Filter Class: CFC_600
Max: 564.9 N at 18.2 ms
Min: -239.9 N at 167.5 ms



Filter Class: CFC_600
Max: 68.8 Nm at 33.8 ms
Min: -38.1 Nm at 16.6 ms



Filter Class: Without_(Consta
Max: 66.4 N·m at 34.4 ms
Min: -27.6 N·m at 16.6 ms

Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-12

Test Date: 6/26/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.34 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-2,961.1 N	Yes
Shoulder Displacement	35 - 44 mm	41.8 mm	Yes

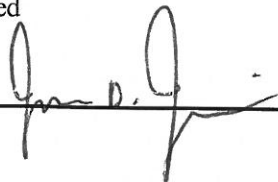
Test meets specifications.

Comments:

Technician



Approved



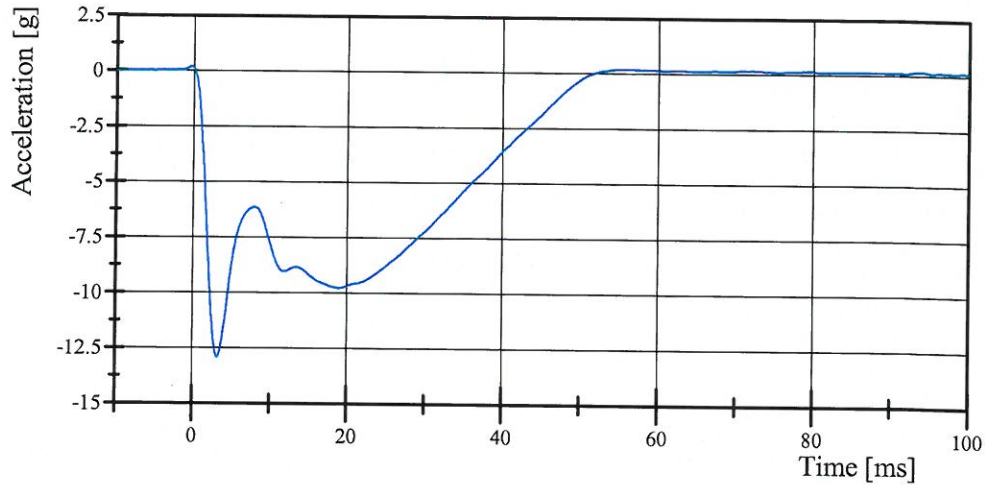
Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-12

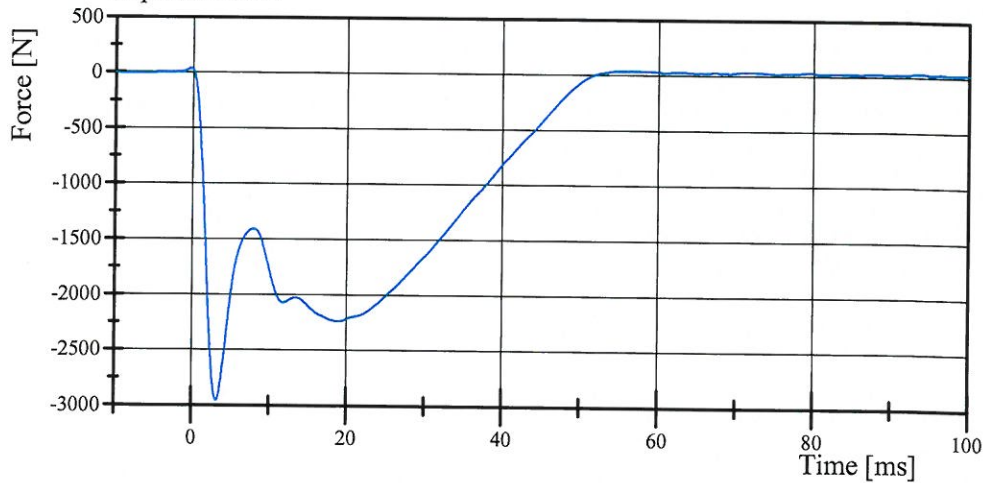
Test Date: 6/26/2012

Impactor Acceleration



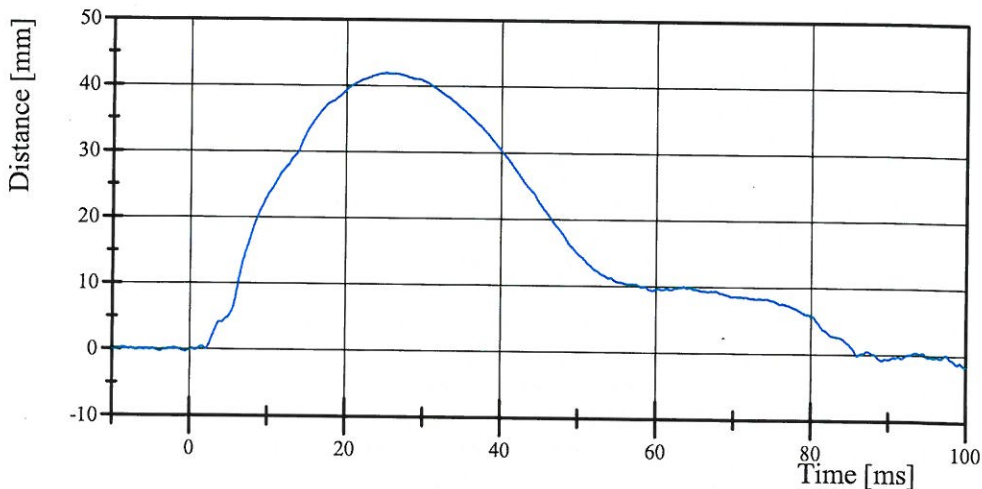
Filter Class: CFC_180
Max: 0.2 gn at 56.6 ms
Min: -12.9 gn at 3.3 ms

Impactor Force



Filter Class: CFC_180
Max: 39.6 N at 56.6 ms
Min: -2,961.1 N at 3.3 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 41.8 mm at 25.1 ms
Min: -1.6 mm at 100.0 ms

Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

Test Date: 6/26/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.77 m/s	Yes
Impactor Force	(-4,900) - (-5,800) N	-5,450.3 N	Yes
Upper Thorax Rib Displacement	35 - 47 mm	40.8 mm	Yes
Center Thorax Rib Displacement	46 - 56 mm	44.9 mm	No
Lower Thorax Rib Displacement	39 - 46 mm	39.3 mm	Yes
Upper Spine Lateral Acceleration	28 - 37 g	31.6 g	Yes
Lower Spine Lateral Acceleration	22 - 28 g	23.0 g	Yes

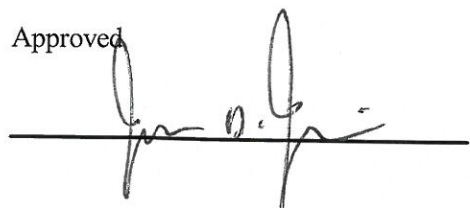
Test does not meet specifications.

Comments:

Technician



Approved

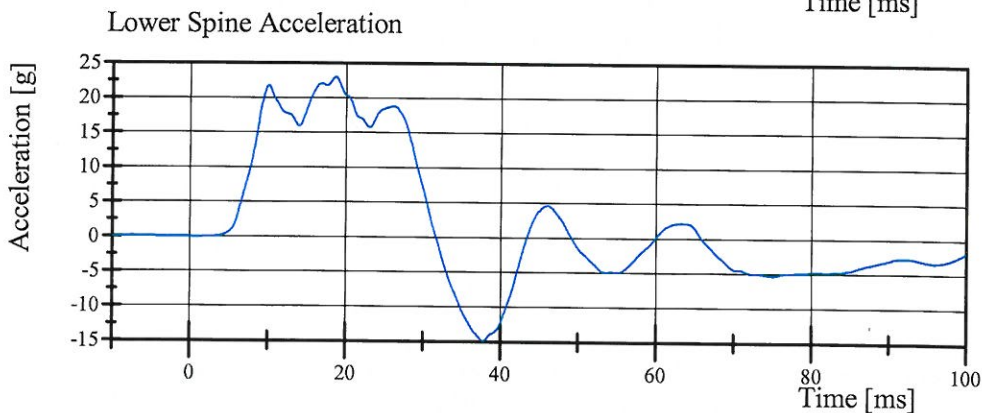
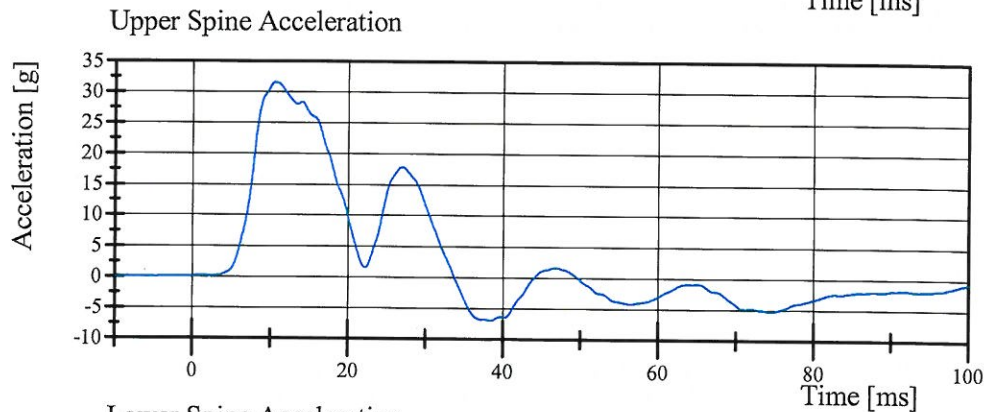
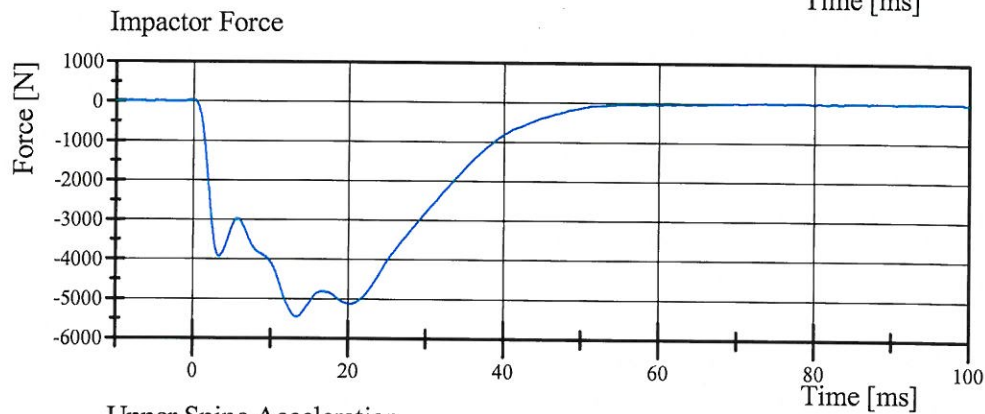
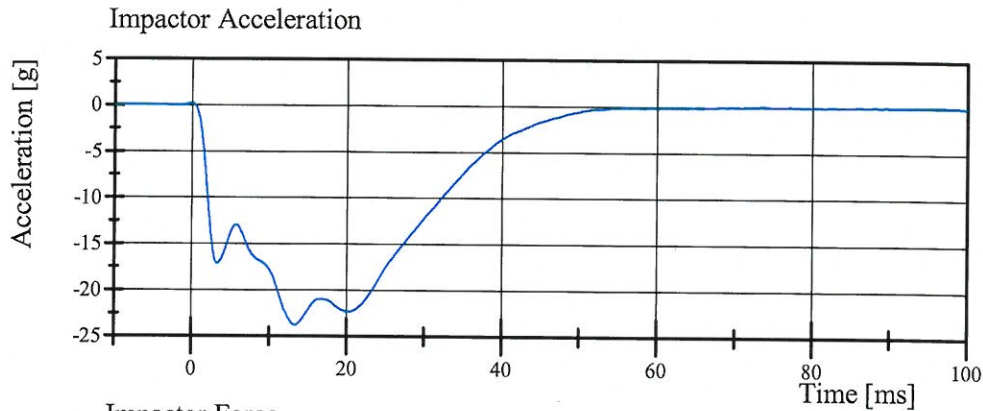


Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

Test Date: 6/26/2012



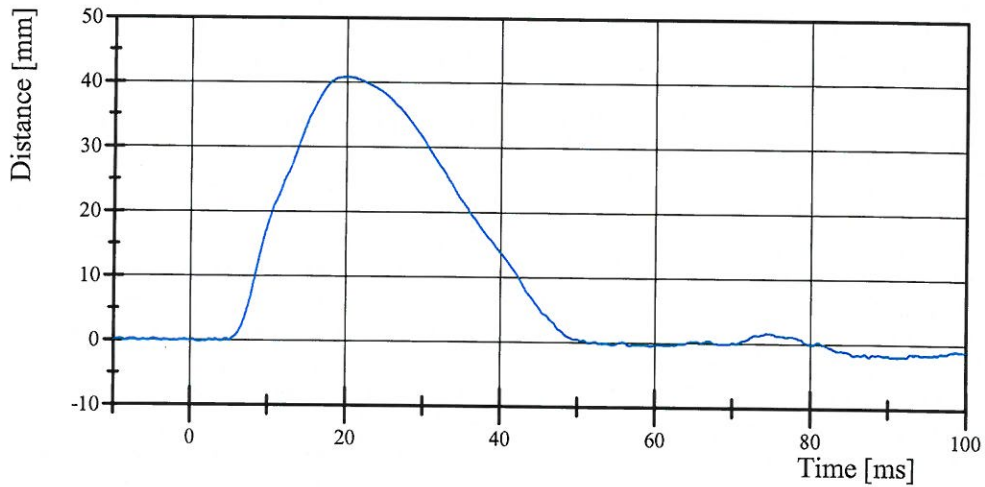
Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

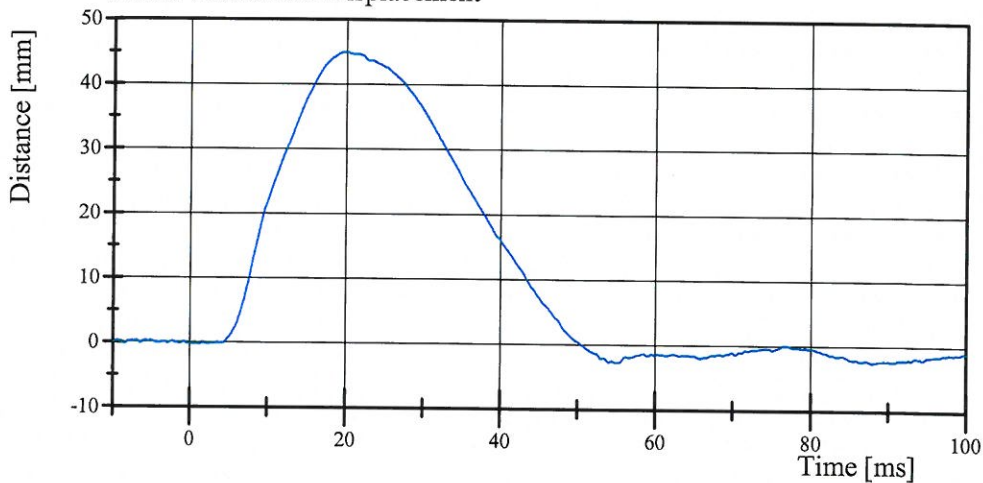
Test Date: 6/26/2012

Upper Thorax Rib Displacement



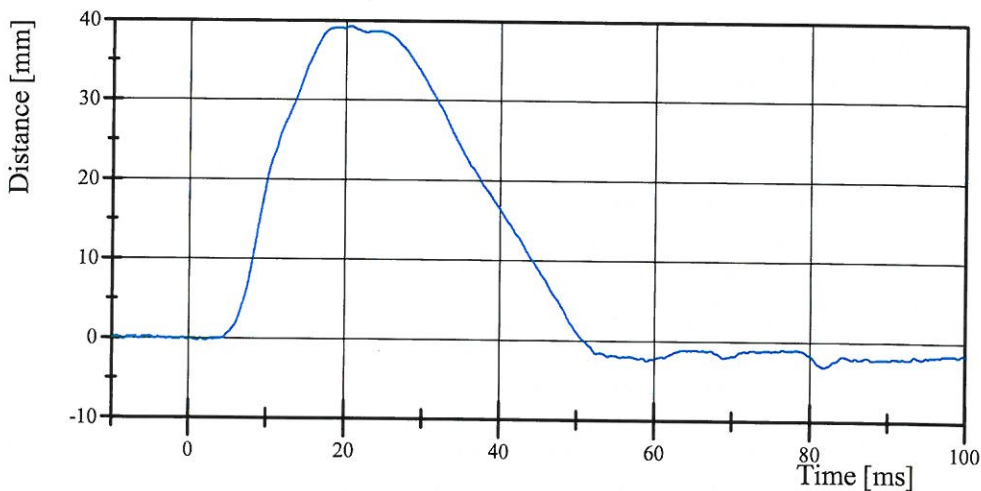
Filter Class: CFC_600
Max: 40.8 mm at 20.1 ms
Min: -2.0 mm at 91.3 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 44.9 mm at 20.0 ms
Min: -2.8 mm at 55.1 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 39.3 mm at 20.7 ms
Min: -3.2 mm at 81.8 ms

Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-3

Test Date: 6/21/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.366 m/s	Yes
Impactor Force	(-3,200) - (-3,800) N	-3,557.2 N	Yes
Upper Thorax Rib Displacement	33 - 43 mm	36.5 mm	Yes
Center Thorax Rib Displacement	35 - 43 mm	37.8 mm	Yes
Lower Thorax Rib Displacement	32 - 40 mm	39.9 mm	Yes
Upper Spine Lateral Acceleration	14 - 20 g	14.1 g	Yes
Lower Spine Lateral Acceleration	14 - 22 g	15.9 g	Yes

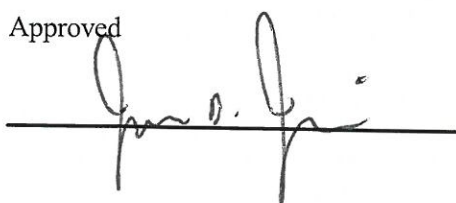
Test meets specifications.

Comments:

Technician



Approved

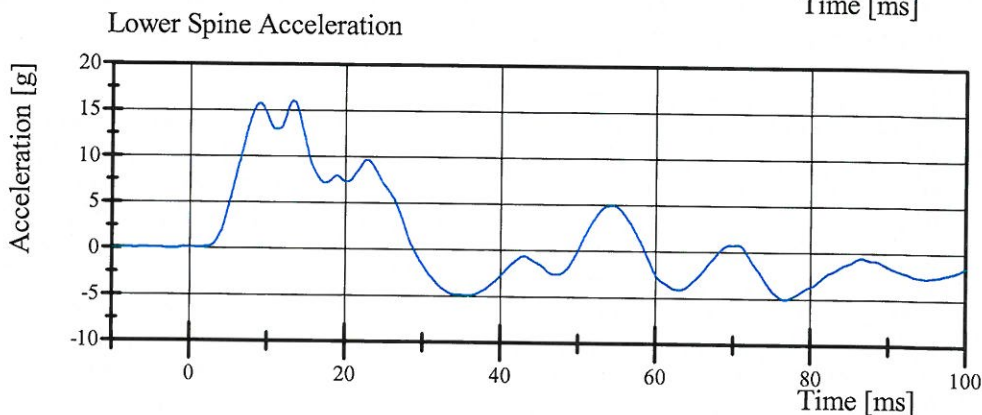
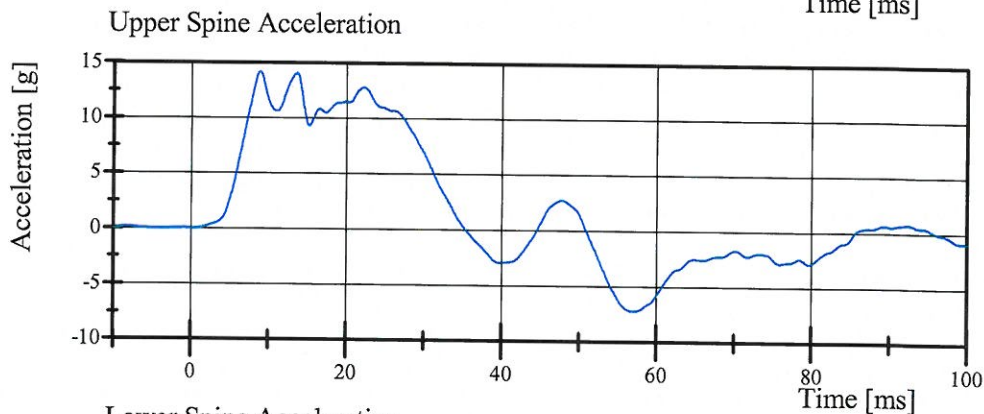
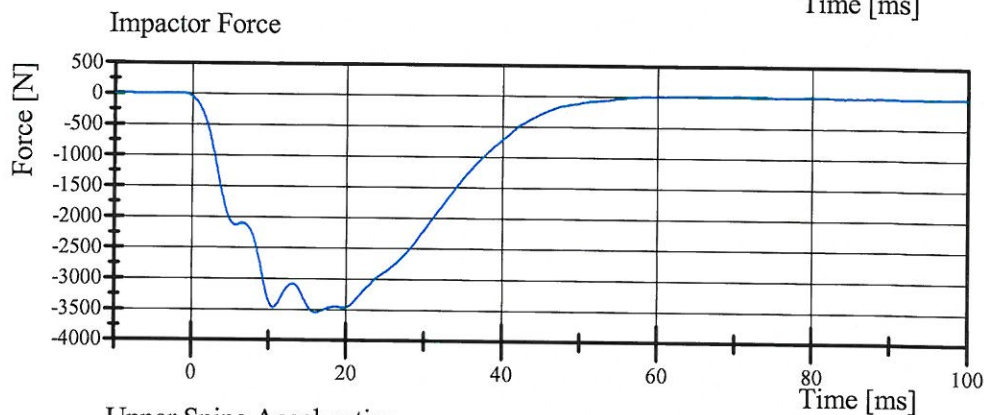
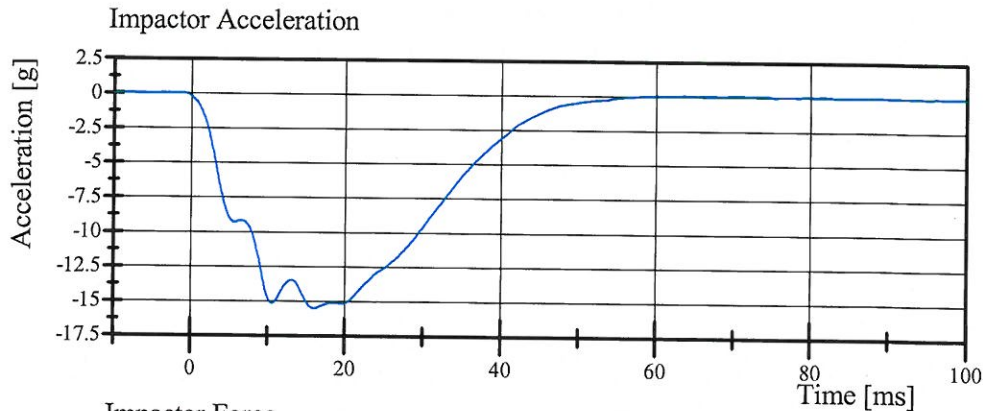


Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-3

Test Date: 6/21/2012



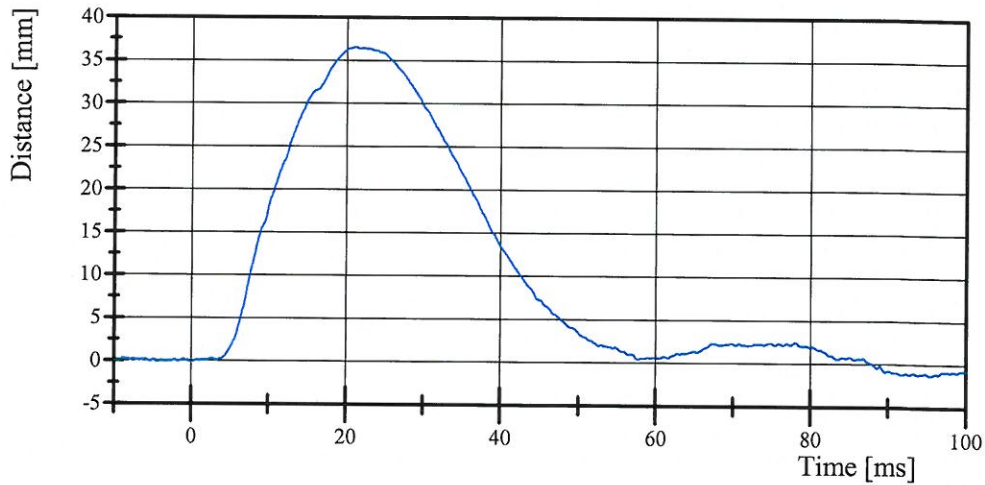
Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-3

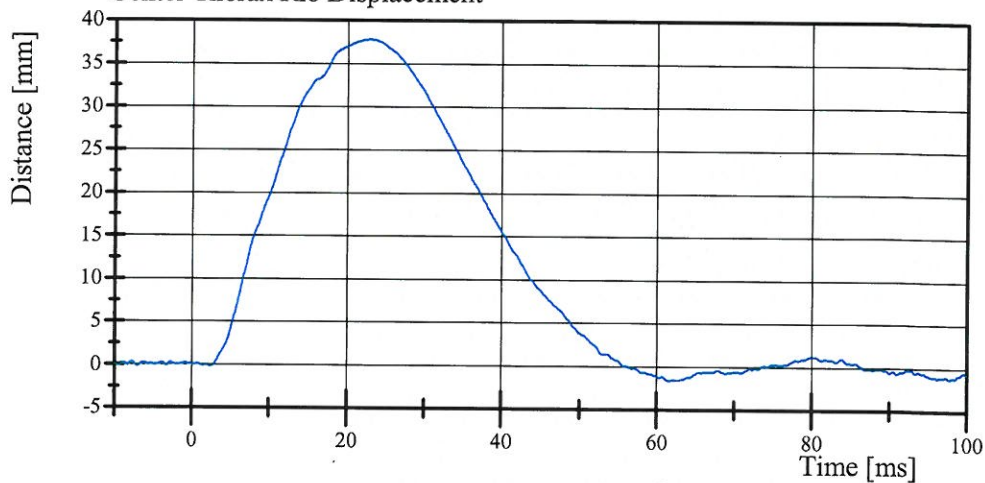
Test Date: 6/21/2012

Upper Thorax Rib Displacement



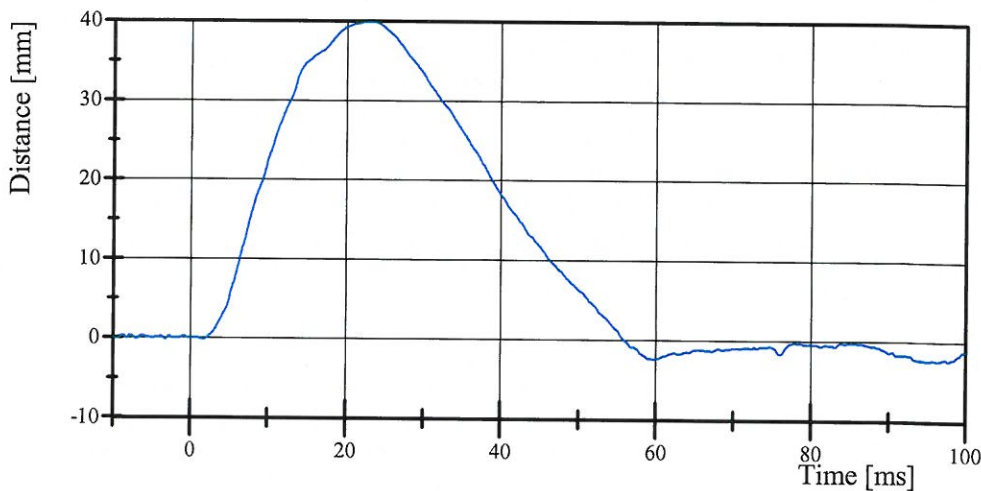
Filter Class: CFC_600
Max: 36.5 mm at 21.2 ms
Min: -1.4 mm at 95.4 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 37.8 mm at 22.9 ms
Min: -1.6 mm at 61.6 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 39.9 mm at 22.9 ms
Min: -2.5 mm at 97.8 ms

Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

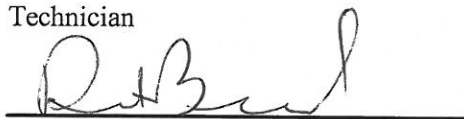
Test Date: 6/26/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.38 m/s	Yes
Impactor Force	(-2,700) - (-3,100) N	-3,029.1 N	Yes
Upper Abdominal Rib Displacement	33 - 40 mm	35.8 mm	Yes
Lower Abdominal Rib Displacement	30 - 36 mm	34.4 mm	Yes
Lower Spine Lateral Acceleration	15 - 20 g	16.4 g	Yes

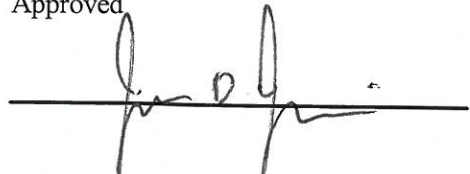
Test meets specifications.

Comments:

Technician



Approved

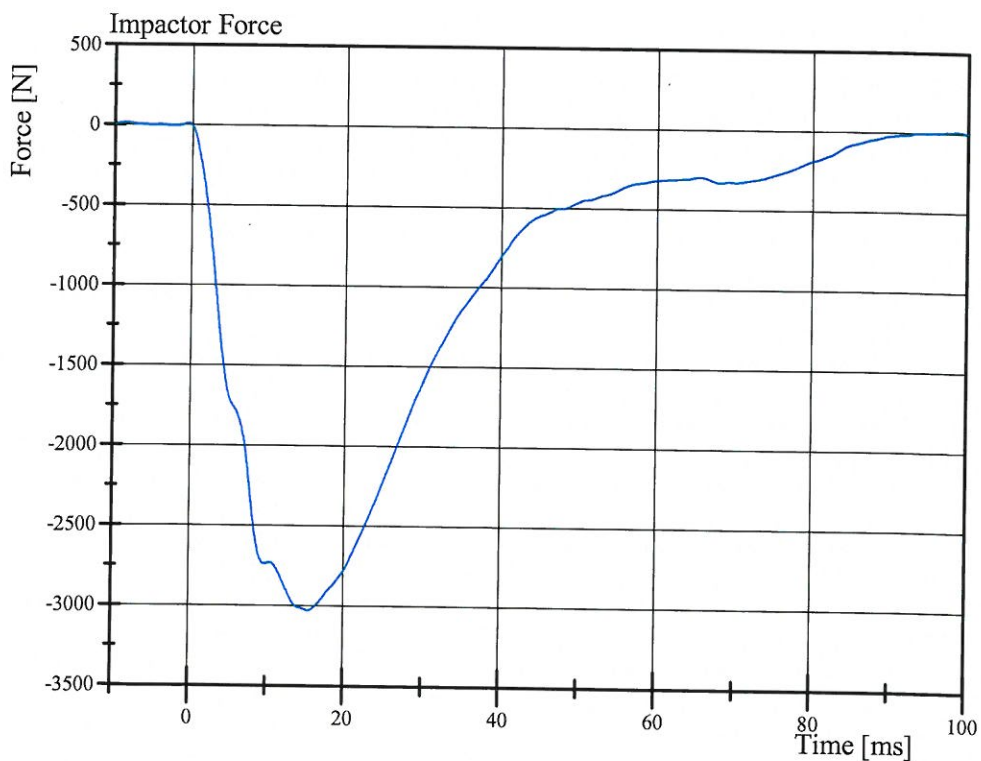
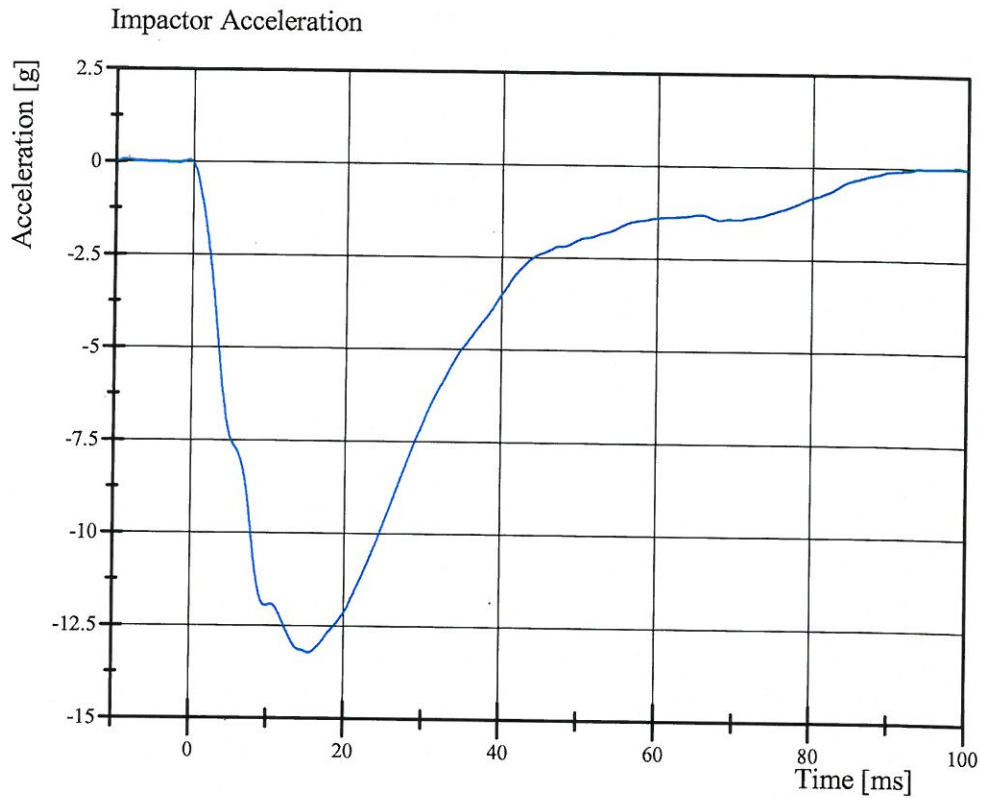


Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

Test Date: 6/26/2012



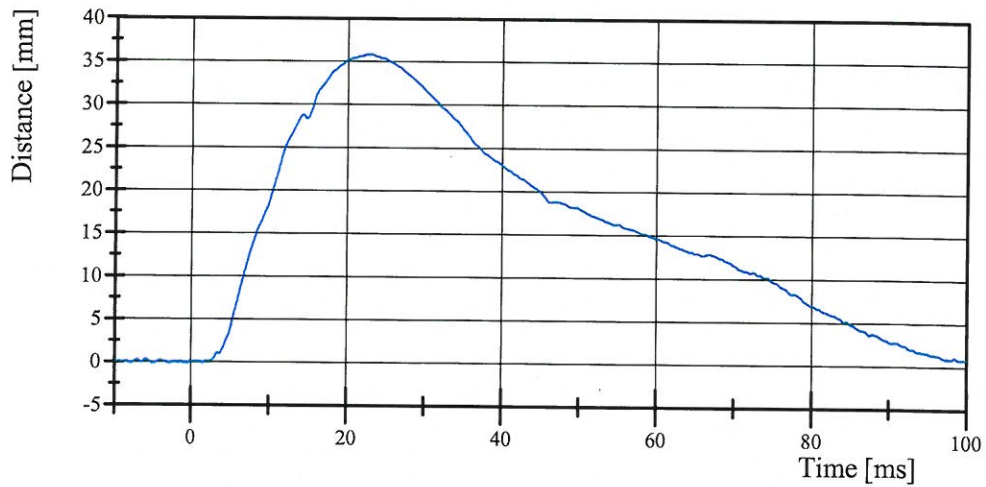
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

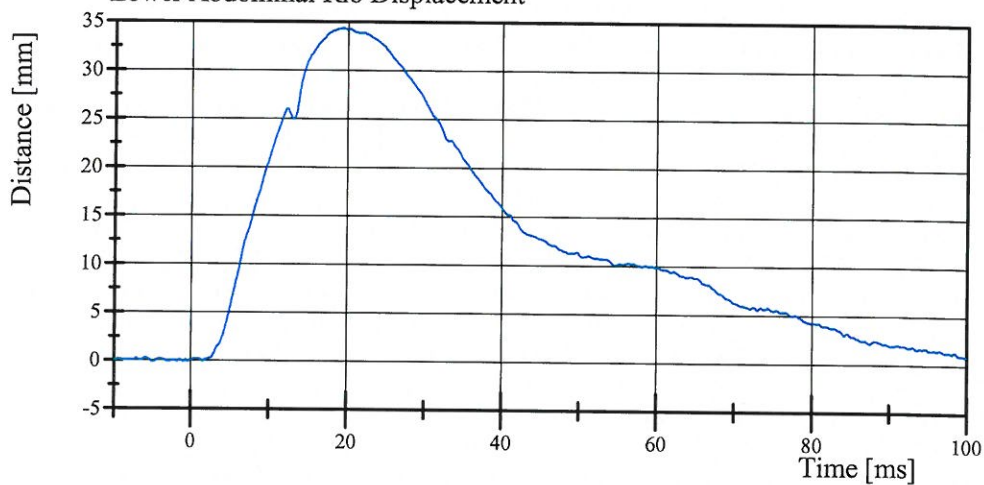
Test Date: 6/26/2012

Upper Abdominal Rib Displacement



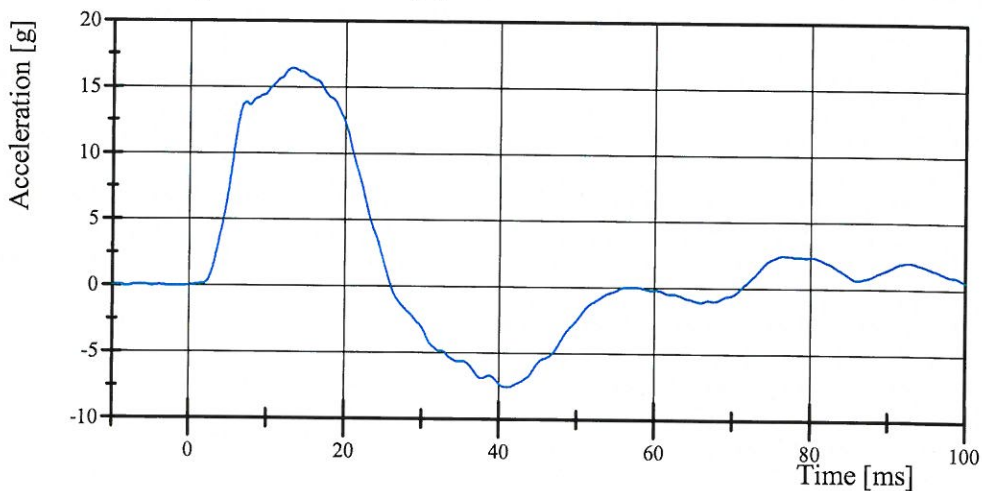
Filter Class: CFC_600
Max: 35.8 mm at 22.8 ms
Min: -0.1 mm at -0.5 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 34.4 mm at 19.4 ms
Min: -0.1 mm at -5.0 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 16.4 gn at 13.2 ms
Min: -7.6 gn at 41.1 ms

Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/25/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.76 m/s	Yes
Impactor Force	(-6,300) - (-7,800) N	-7,539.7 N	Yes
Pelvis Lateral Acceleration	41 - 51 g	45.8 g	Yes
Lower Spine Lateral Acceleration	10 - 14 g	11.9 g	Yes

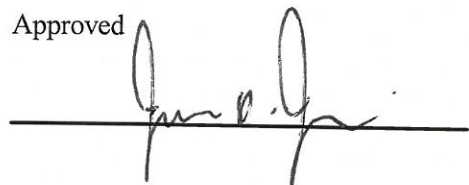
Test meets specifications.

Comments:

Technician



Approved

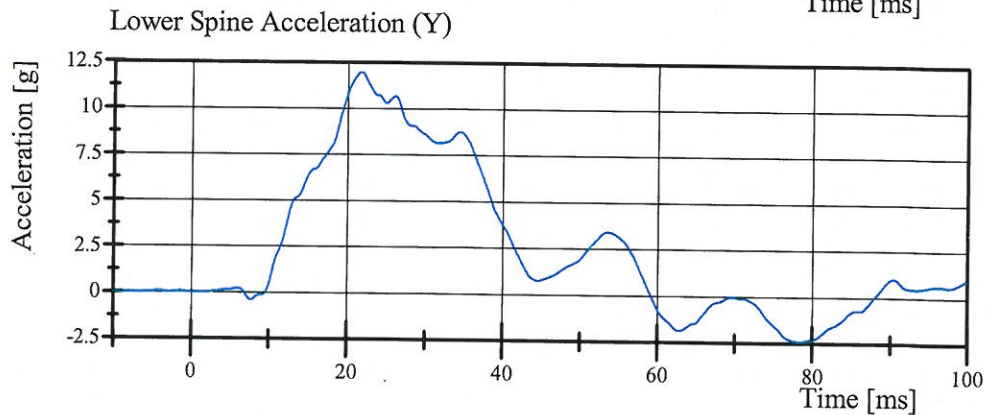
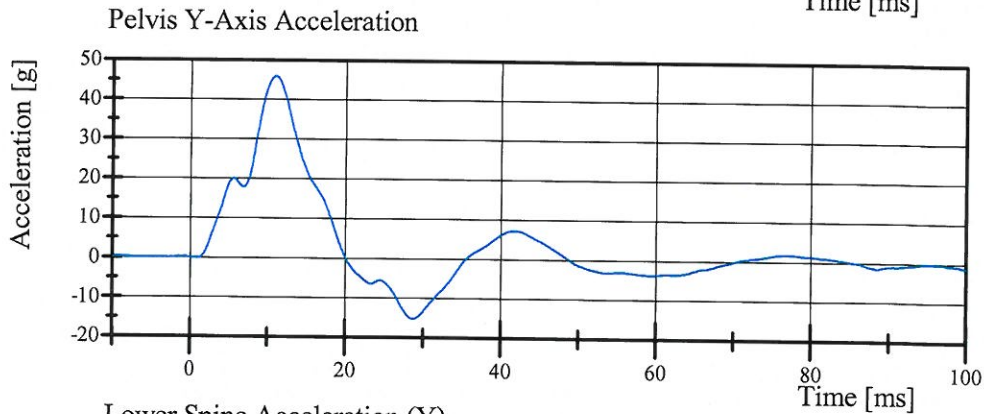
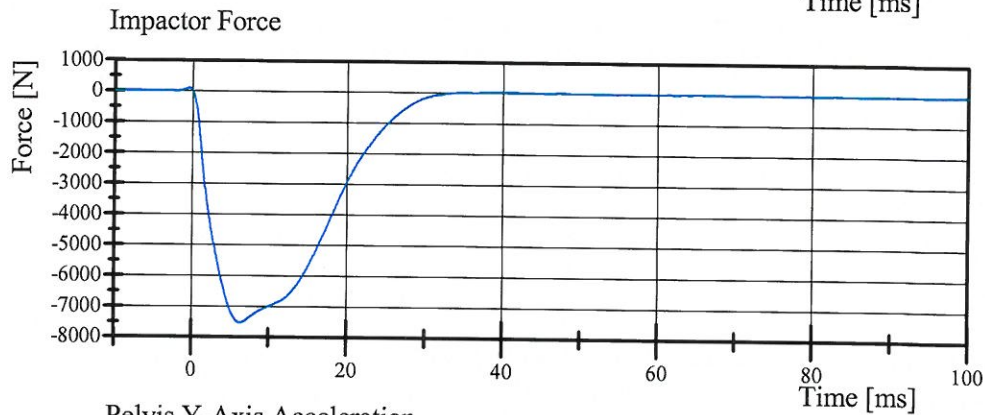
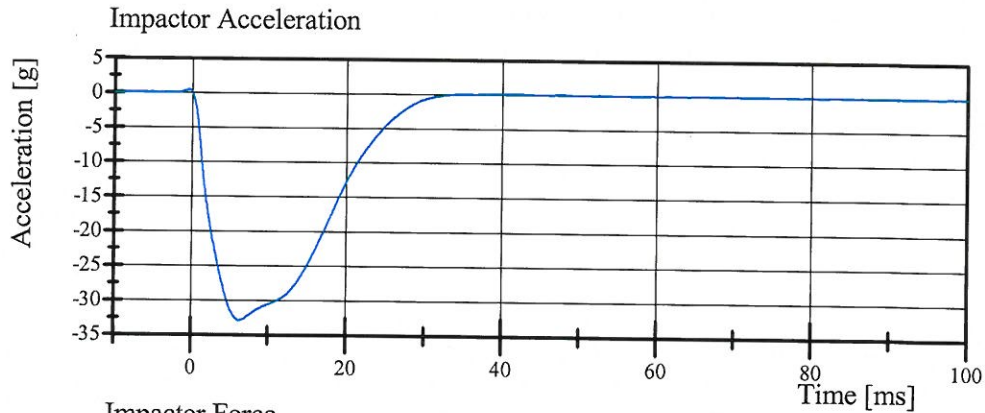


Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/25/2012



Calibration Test Results

Pre-Test

WorldSID: DG-236

Configured for Left Side Impact

Transportation Research Center Inc.

Front Head Drop

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/7/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	63 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	242.0 g	No
Peak Head Lateral Acceleration	(-15) - 15 g	4.2 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

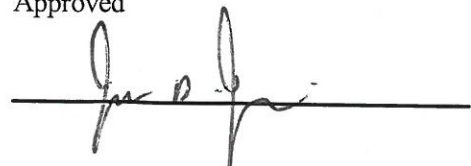
Test does not meet specifications.

Comments:

Technician



Approved



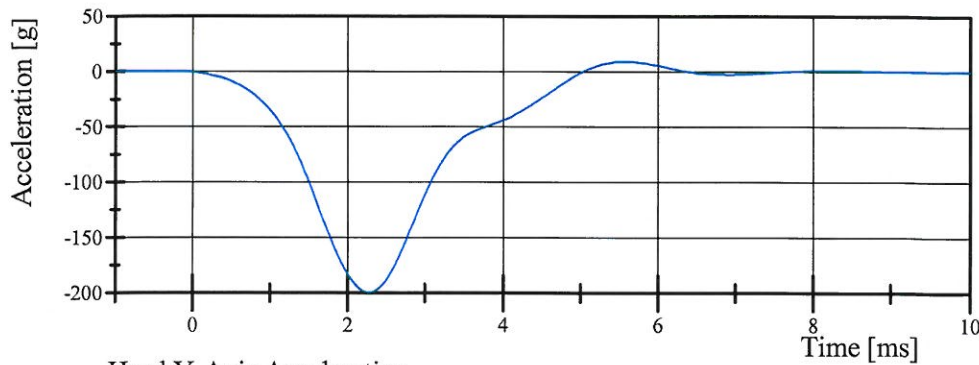
Transportation Research Center Inc.

Front Head Drop

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

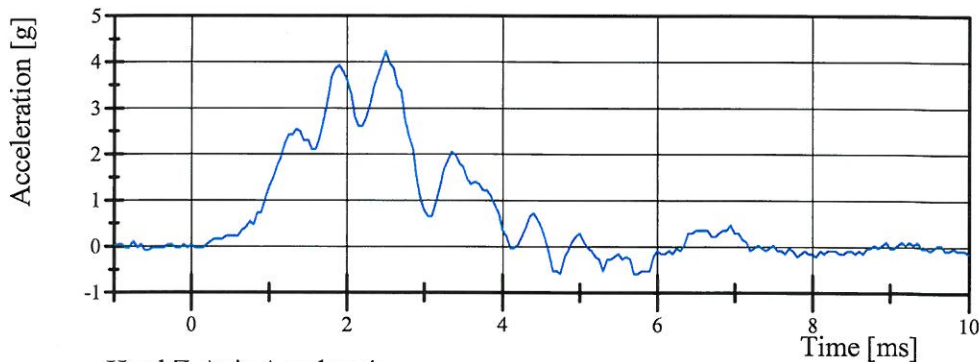
Test Date: 8/7/2012

Head X-Axis Acceleration



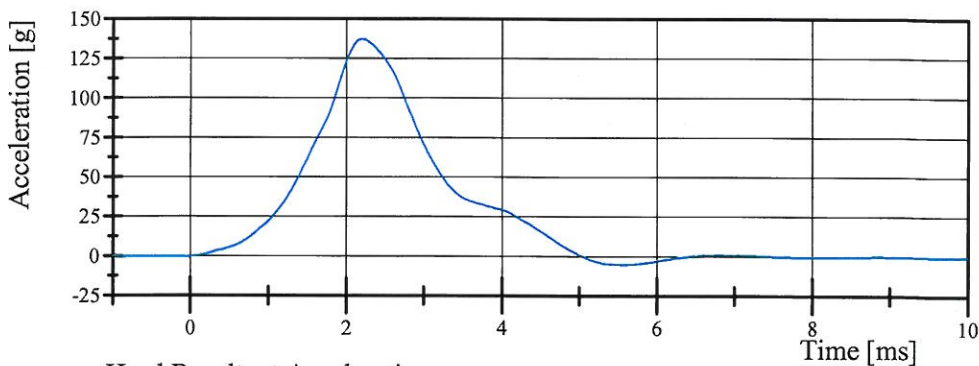
Filter Class: CFC_1000
Max: 9.2 gn at 5.6 ms
Min: -199.4 gn at 2.3 ms

Head Y-Axis Acceleration



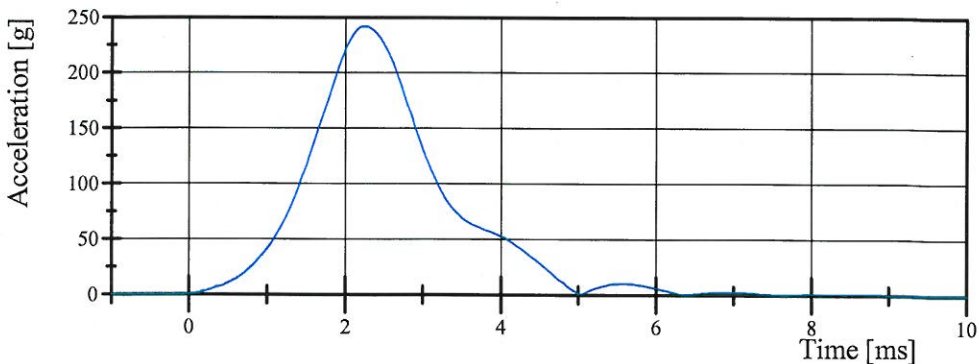
Filter Class: CFC_1000
Max: 4.2 gn at 2.5 ms
Min: -0.6 gn at 4.8 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 137.5 gn at 2.2 ms
Min: -5.0 gn at 5.6 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 242.0 gn at 2.3 ms
Min: 0.0 gn at 9.6 ms

Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/7/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	64 %	Yes
Peak Head Resultant Acceleration	124 - 149 g	111.4 g	No
Peak Head Longitudinal Acceleration	(-15) - 15 g	4.4 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

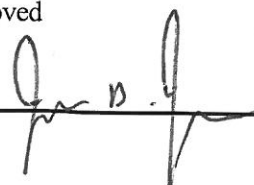
Test does not meet specifications.

Comments:

Technician



Approved



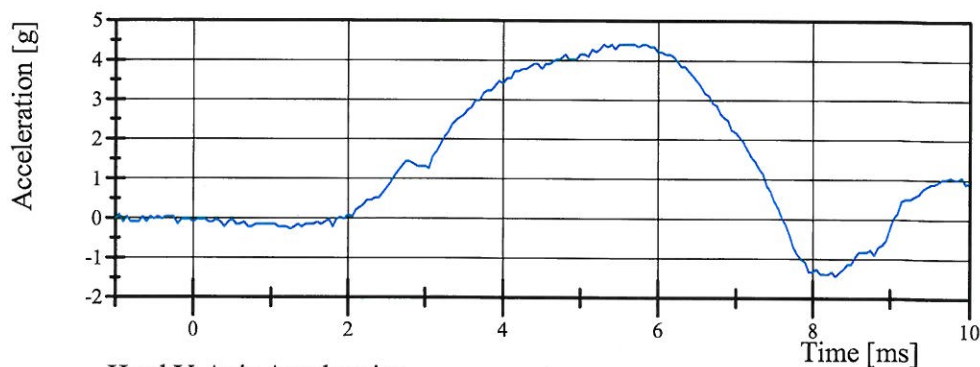
Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/7/2012

Head X-Axis Acceleration

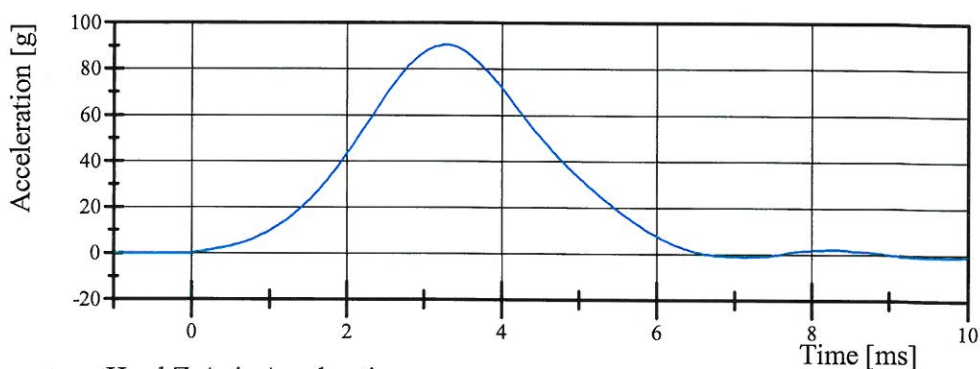


Filter Class: CFC_1000

Max: 4.4 gn at 5.3 ms

Min: -1.4 gn at 8.3 ms

Head Y-Axis Acceleration

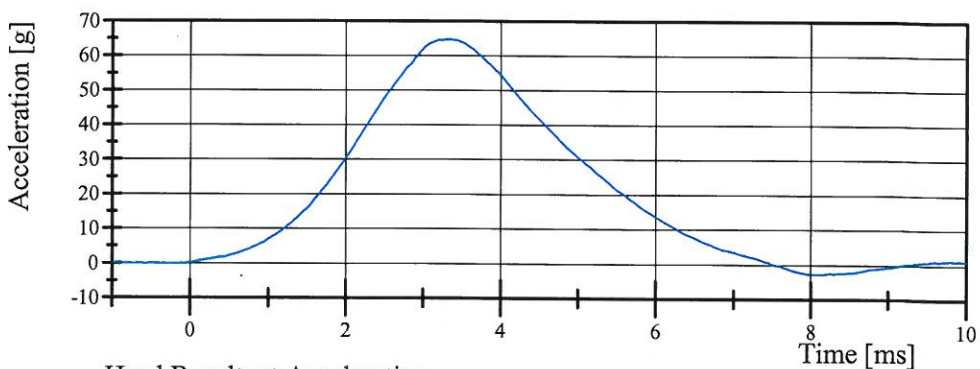


Filter Class: CFC_1000

Max: 90.6 gn at 3.3 ms

Min: -1.0 gn at 7.1 ms

Head Z-Axis Acceleration

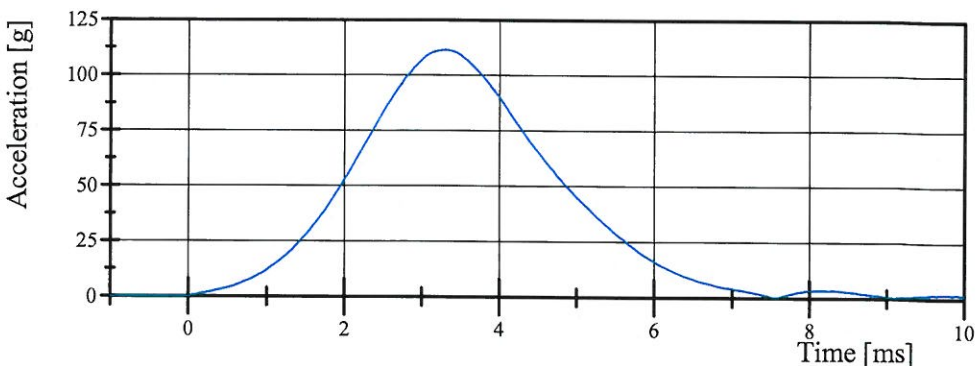


Filter Class: CFC_1000

Max: 64.8 gn at 3.3 ms

Min: -2.6 gn at 8.1 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 111.4 gn at 3.3 ms

Min: 0.0 gn at -1.0 ms

Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/7/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	64 %	Yes
Peak Head Resultant Acceleration	124 - 149 g	111.8 g	No
Peak Head Longitudinal Acceleration	(-15) - 15 g	5.0 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

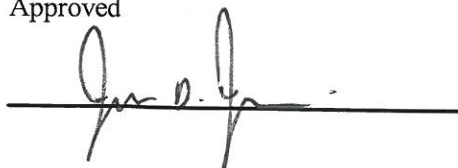
Test does not meet specifications.

Comments:

Technician



Approved



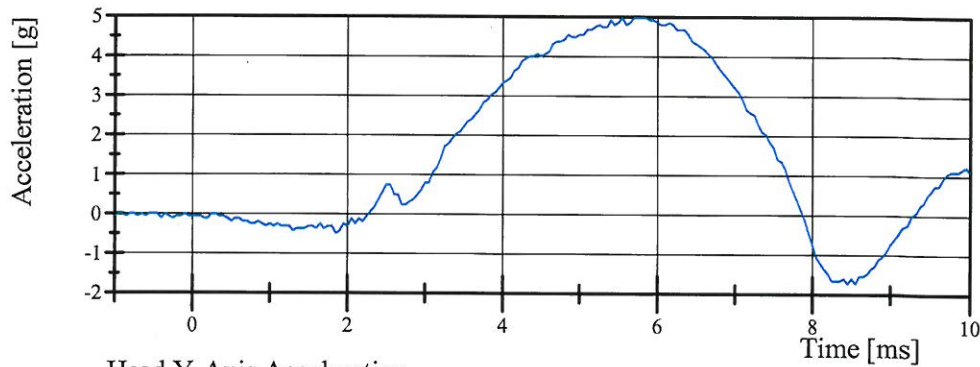
Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/7/2012

Head X-Axis Acceleration

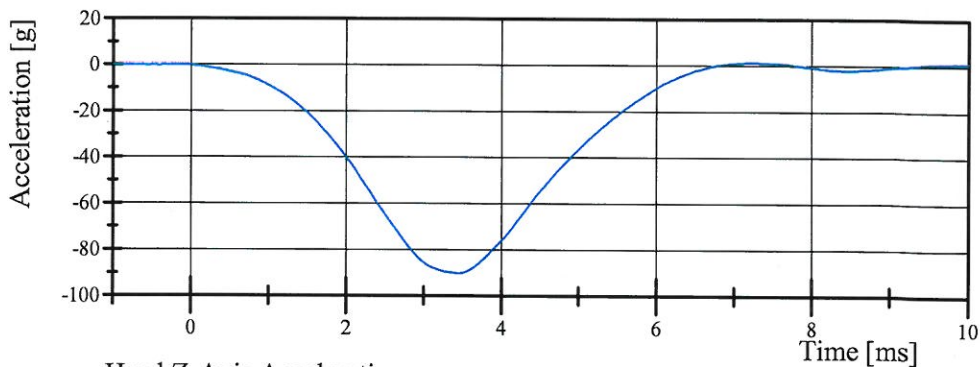


Filter Class: CFC_1000

Max: 5.0 gn at 5.6 ms

Min: -1.7 gn at 8.5 ms

Head Y-Axis Acceleration

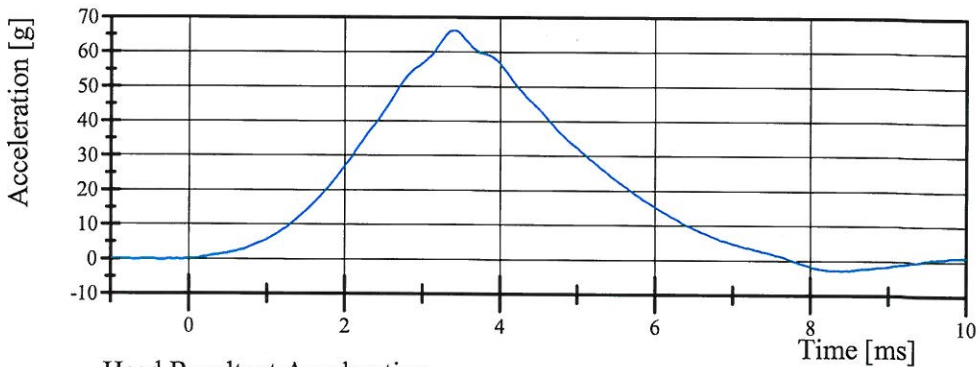


Filter Class: CFC_1000

Max: 1.4 gn at 7.2 ms

Min: -90.2 gn at 3.5 ms

Head Z-Axis Acceleration

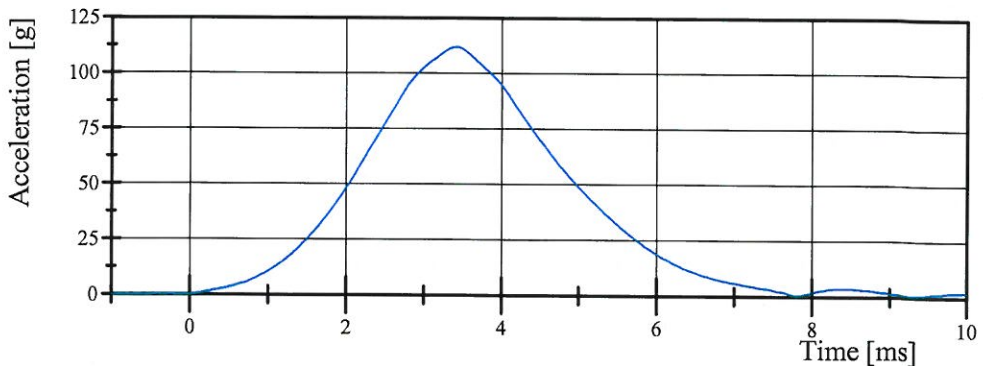


Filter Class: CFC_1000

Max: 66.3 gn at 3.4 ms

Min: -2.7 gn at 8.4 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 111.8 gn at 3.4 ms

Min: 0.0 gn at -0.6 ms

Transportation Research Center Inc.

Left Lateral Neck

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-5

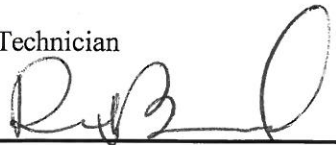
Test Date: 8/8/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	62 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.39 m/s	Yes
Pendulum Integrated Velocity			
Change at 4 ms	0.77 - 1.04 m/s	0.872 m/s	Yes
Change at 8 ms	1.6 - 2.16 m/s	1.801 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	2.839 m/s	Yes
Maximum Headform Flexion	(-58.5) - (-71.4) deg	-64.32 deg	Yes
Headform Flexion Decay			
- from Peak to Zero Degrees	57.3 - 76.5 ms	60.85 ms	Yes
Total Neck Occipital Condyles Moment	34.2 - 51.0 N·m	43.19 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	69.4 - 93.3 ms	81.35 ms	Yes
Maximum Forward Pot Rotation			
Peak	(-38.4) - (-46.9) °	-41.15 °	Yes
Time of Peak	56.0 - 68.5 ms	62.05 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-33.9) - (-41.5) °	-35.89 °	Yes
Time of Peak	56.5 - 69.1 ms	60.90 ms	Yes

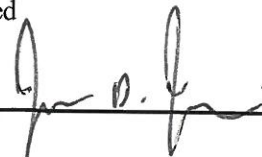
Test meets specifications.

Comments:

Technician



Approved

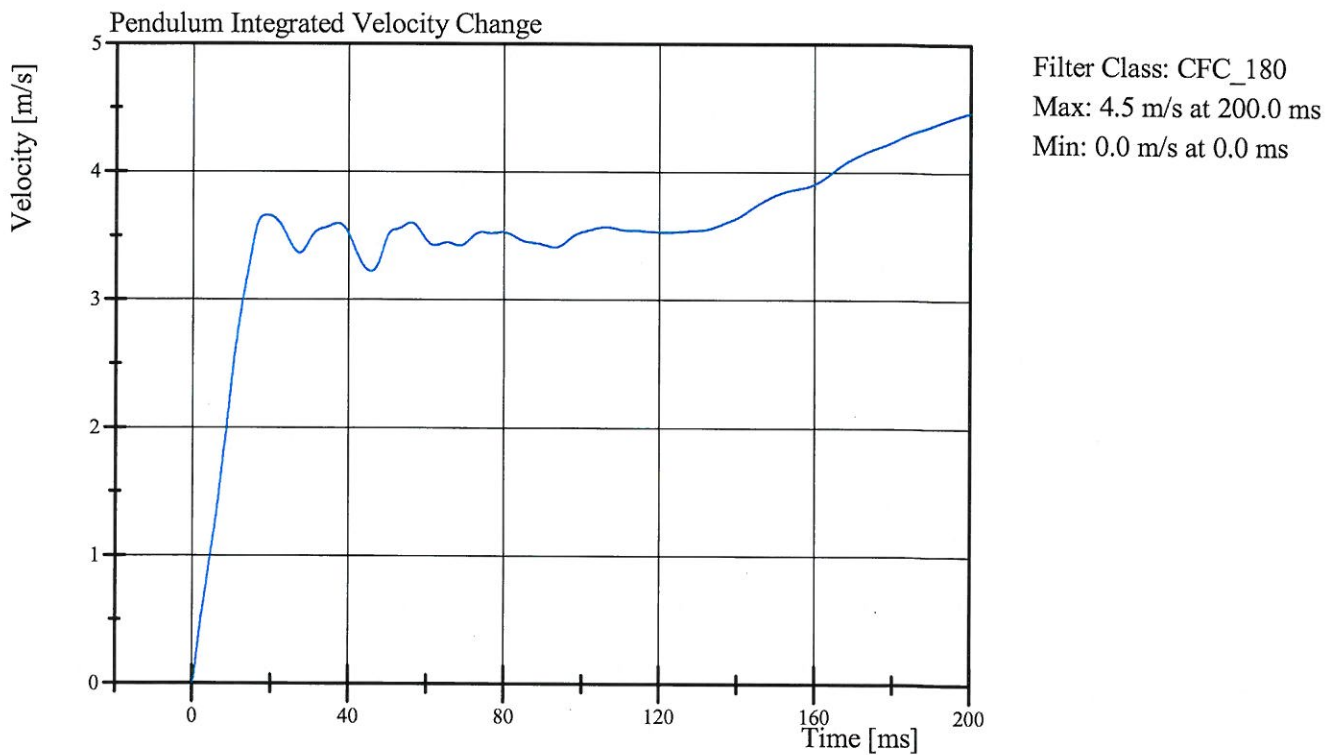
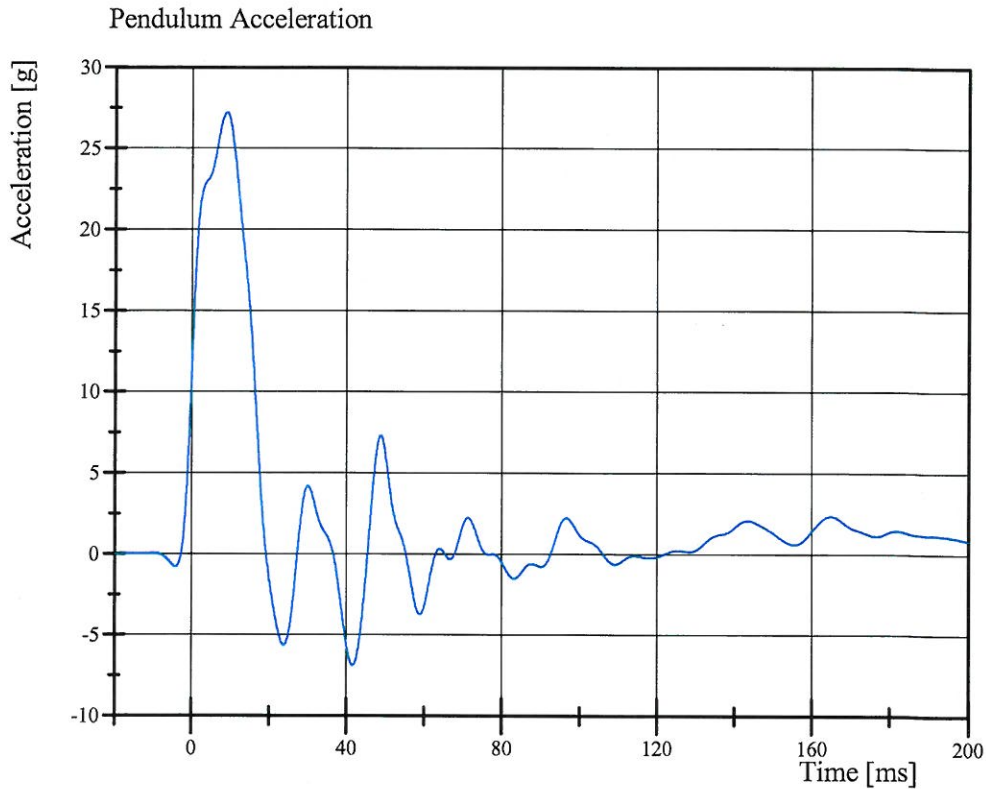


Transportation Research Center Inc.

Left Lateral Neck

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-5

Test Date: 8/8/2012

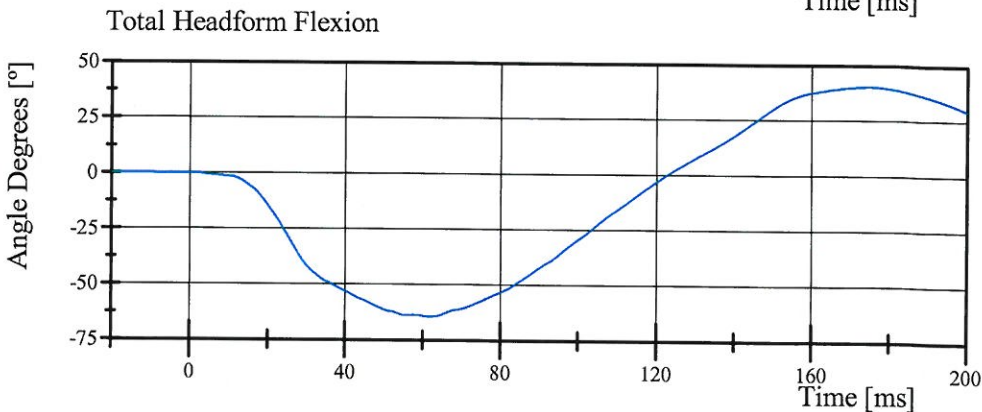
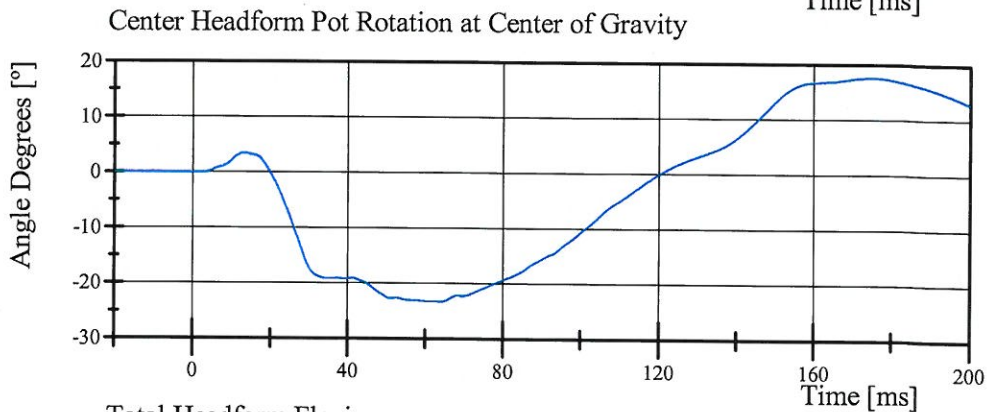
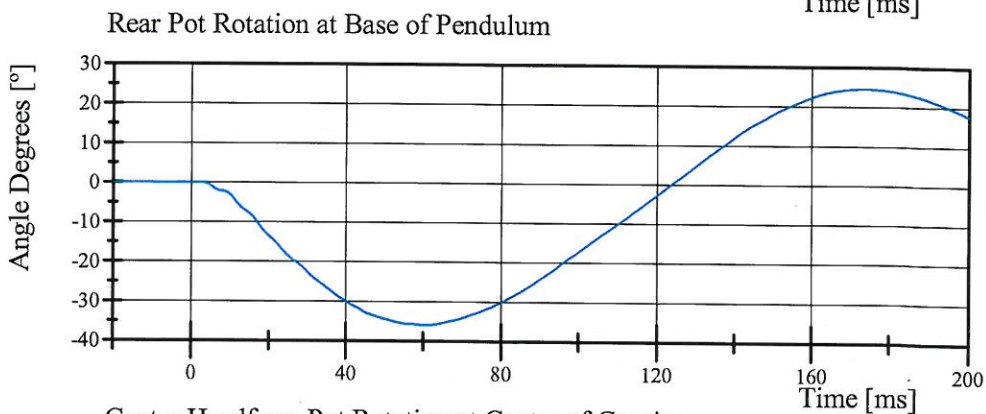
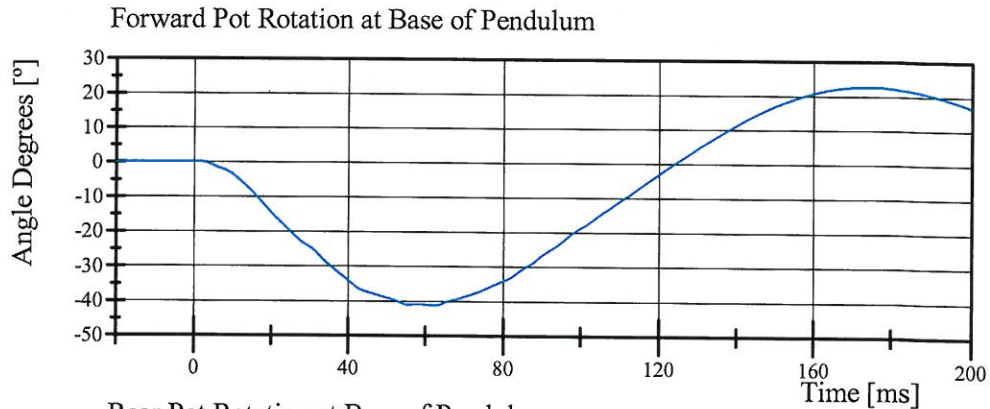


Transportation Research Center Inc.

Left Lateral Neck

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-5

Test Date: 8/8/2012

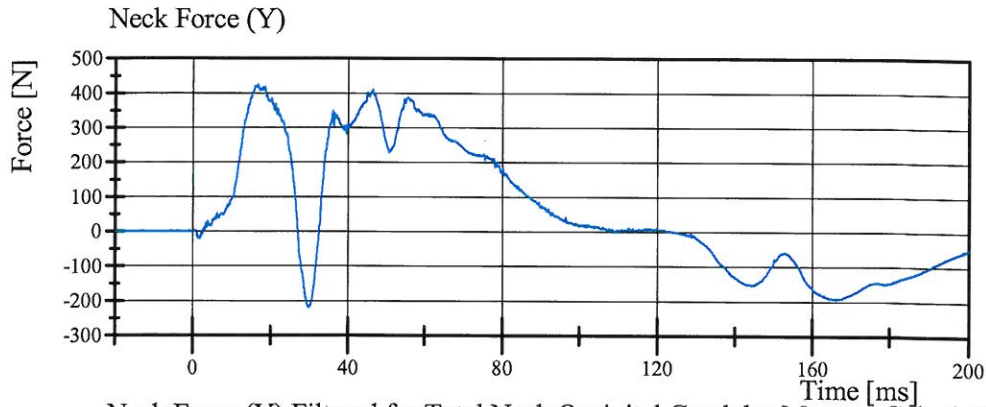


Transportation Research Center Inc.

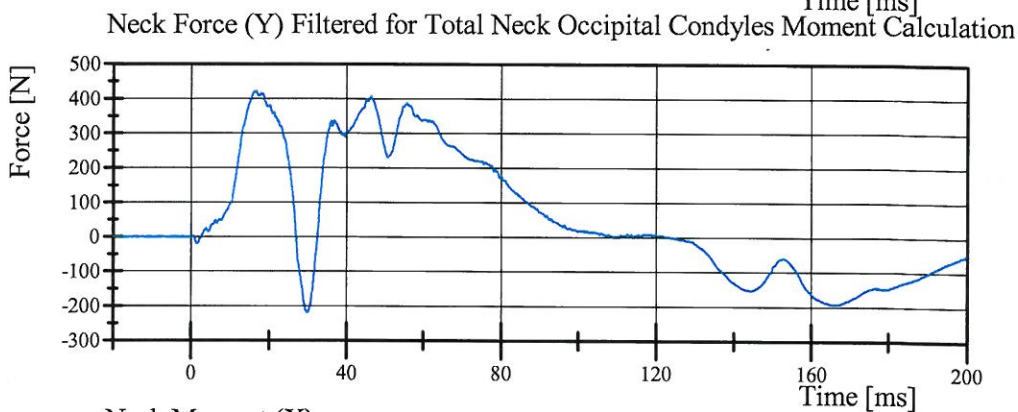
Left Lateral Neck

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-5

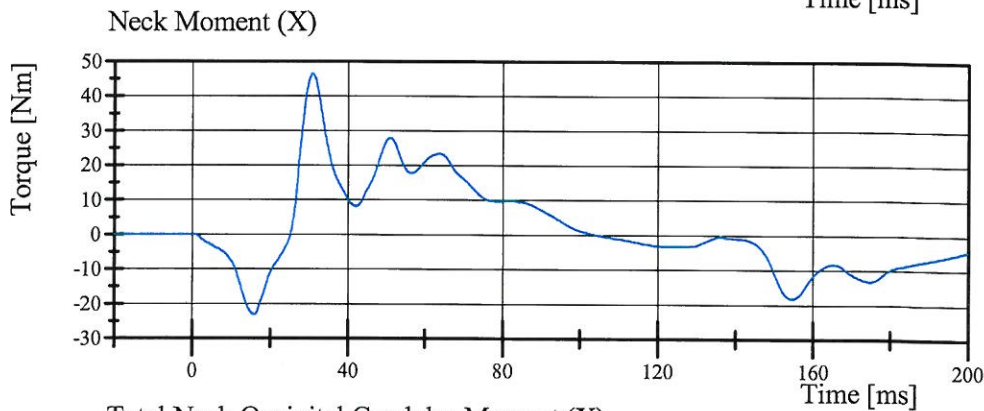
Test Date: 8/8/2012



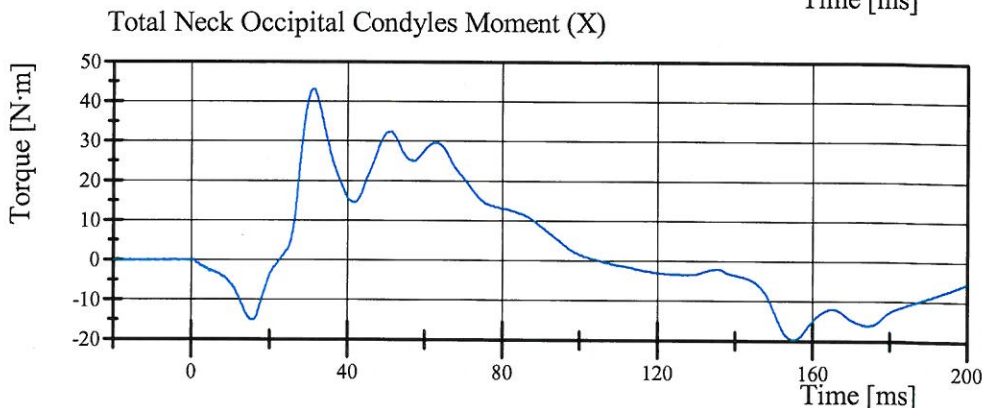
Filter Class: CFC_1000
Max: 423.5 N at 16.6 ms
Min: -219.7 N at 29.8 ms



Filter Class: CFC_600
Max: 421.8 N at 16.6 ms
Min: -218.9 N at 29.8 ms



Filter Class: CFC_600
Max: 46.5 Nm at 30.8 ms
Min: -23.2 Nm at 15.9 ms



Filter Class: Without (Consta
Max: 43.2 N·m at 31.3 ms
Min: -19.7 N·m at 155.2 ms

Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-2

Test Date: 8/13/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	61 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.31 m/s	Yes
Impactor Force	(-1,580) - (-2,280) N	-2,098.9 N	Yes
Shoulder Displacement	23.4 - 36.6 mm	29.64 mm	Yes

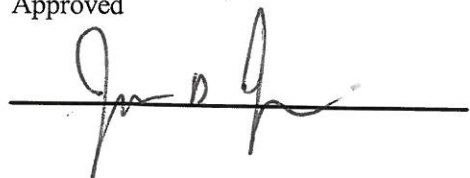
Test meets specifications.

Comments:

Technician



Approved



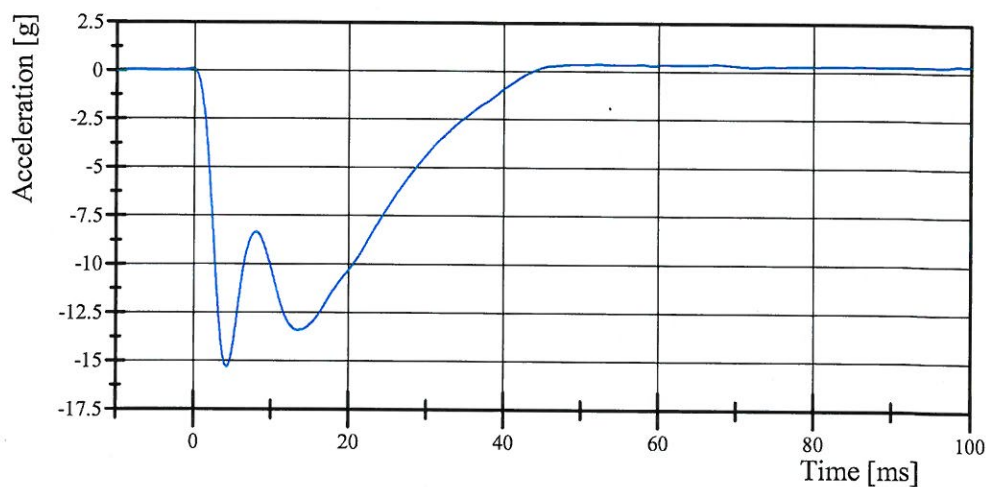
Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-2

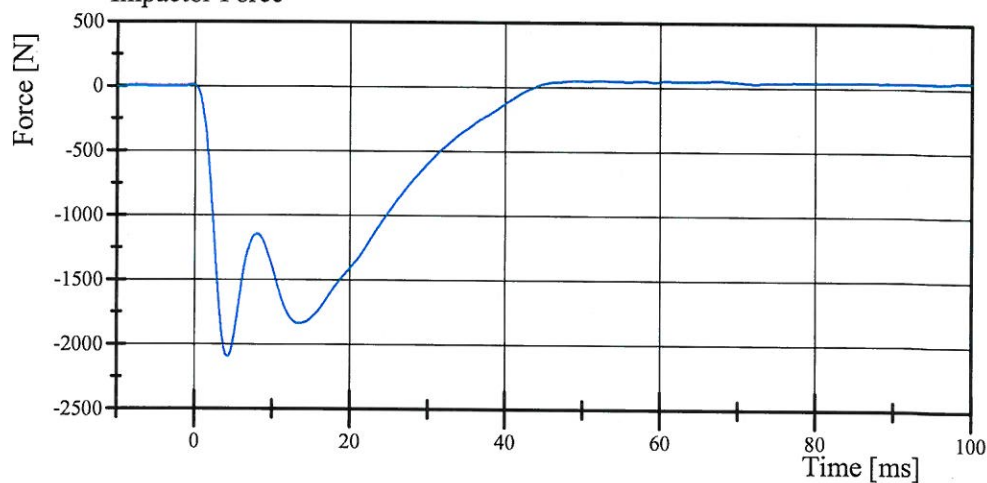
Test Date: 8/13/2012

Impactor Acceleration



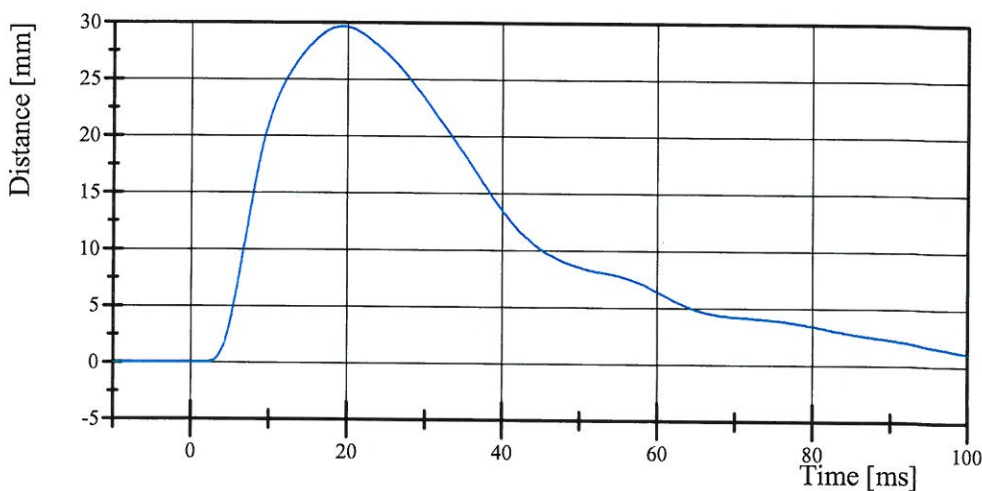
Filter Class: CFC_180
Max: 0.4 gn at 67.3 ms
Min: -15.3 gn at 4.3 ms

Impactor Force



Filter Class: CFC_180
Max: 52.4 N at 67.3 ms
Min: -2,098.9 N at 4.3 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 29.6 mm at 19.5 ms
Min: -0.0 mm at -7.4 ms

Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	66 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.73 m/s	Yes
Impactor Force	(-5,020) - (-6,130) N	-5,733.8 N	Yes
Upper Thorax Rib Displacement	18.3 - 26.4 mm	19.84 mm	Yes
Center Thorax Rib Displacement	21.6 - 26.4 mm	22.60 mm	Yes
Lower Thorax Rib Displacement	19.7 - 26.6 mm	21.03 mm	Yes
Upper Spine Lateral Acceleration	34.7 - 52.0 g	48.18 g	Yes
Lower Spine Lateral Acceleration	44.5 - 54.9 g	52.38 g	Yes

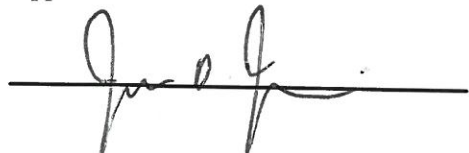
Test meets specifications.

Comments:

Technician



Approved

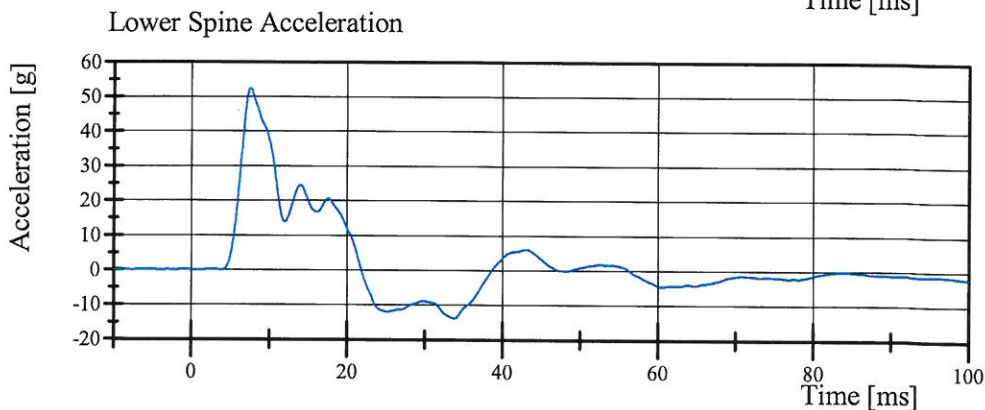
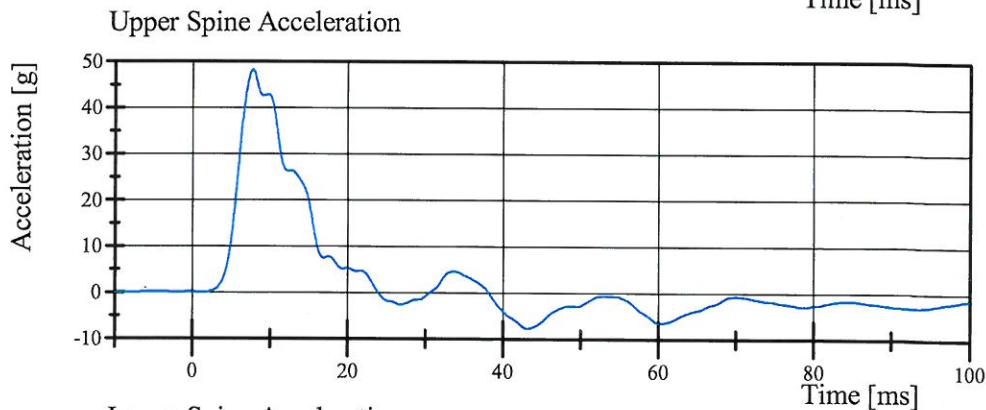
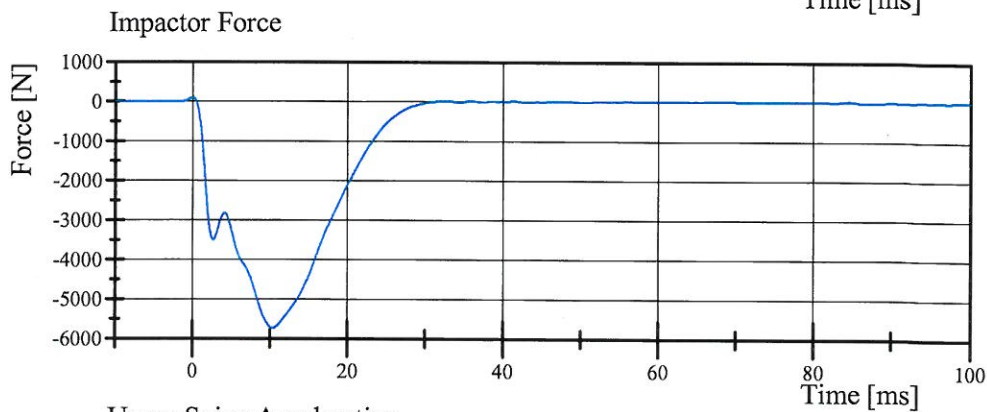
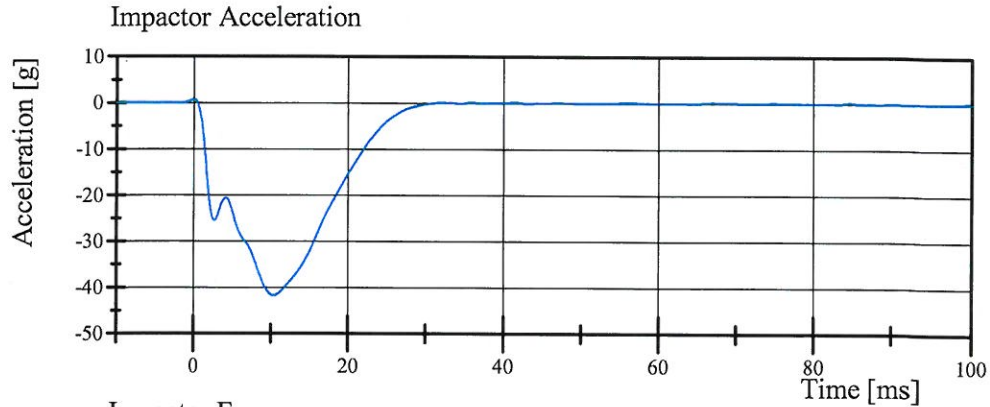


Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/14/2012



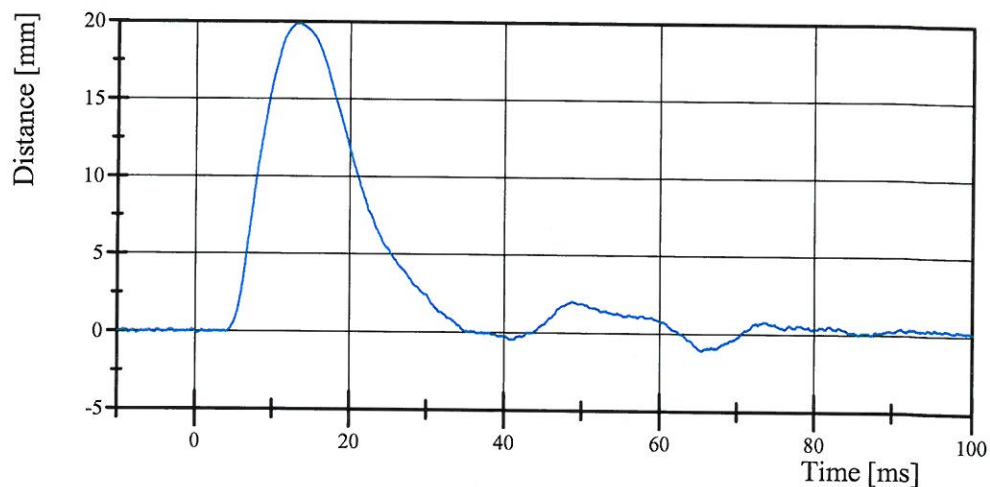
Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

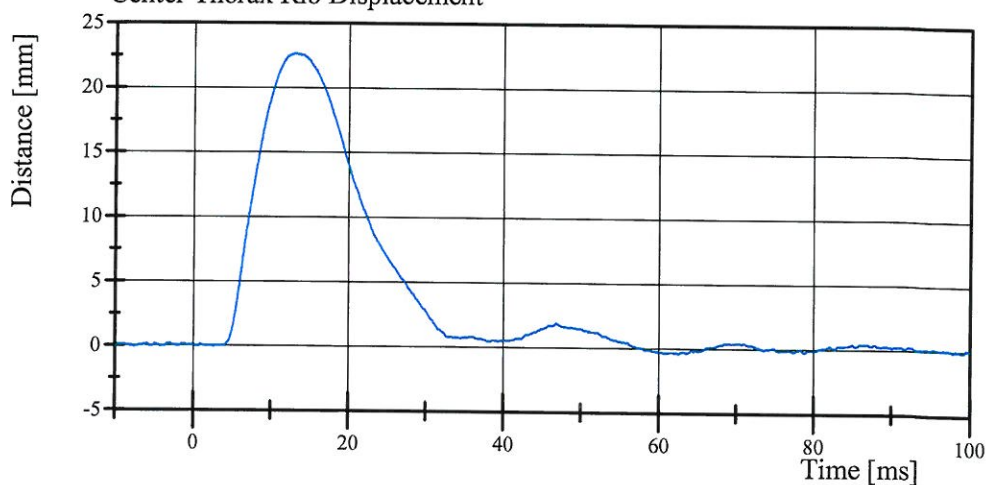
Test Date: 8/14/2012

Upper Thorax Rib Displacement



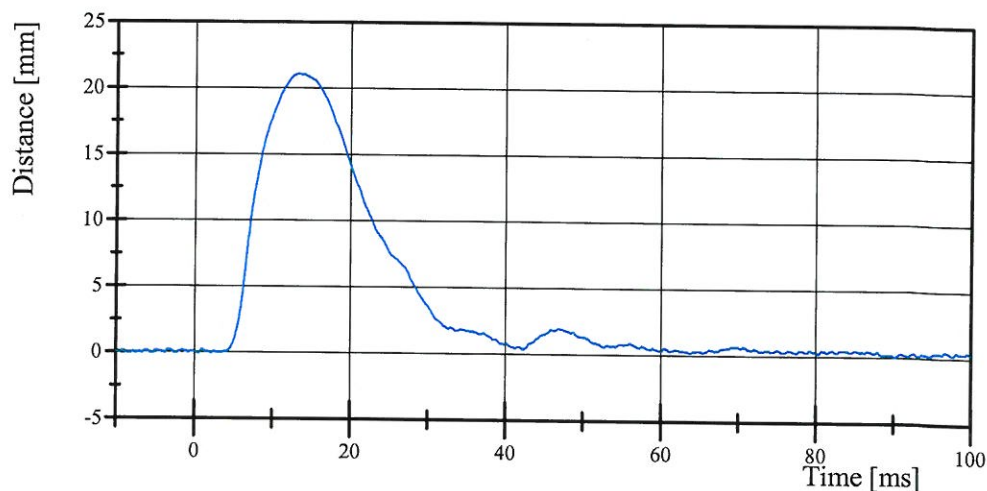
Filter Class: CFC_600
Max: 19.8 mm at 13.4 ms
Min: -1.1 mm at 65.4 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 22.6 mm at 13.1 ms
Min: -0.4 mm at 62.5 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 21.0 mm at 13.3 ms
Min: -0.1 mm at 0.5 ms

Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-2

Test Date: 8/13/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	61 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.30 m/s	Yes
Impactor Force	(-2,640) - (-3,220) N	-3,344.5 N	No
Upper Thorax Rib Displacement	20.5 - 27.7 mm	19.40 mm	No
Center Thorax Rib Displacement	21.7 - 26.7 mm	22.18 mm	Yes
Lower Thorax Rib Displacement	20.9 - 27.3 mm	24.10 mm	Yes
Upper Spine Lateral Acceleration	21.2 - 27.5 g	24.35 g	Yes
Lower Spine Lateral Acceleration	20.6 - 28.9 g	25.31 g	Yes

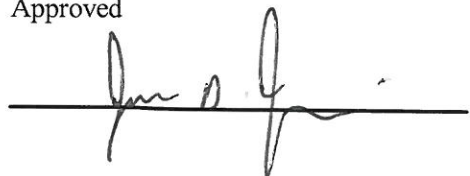
Test does not meet specifications.

Comments:

Technician



Approved

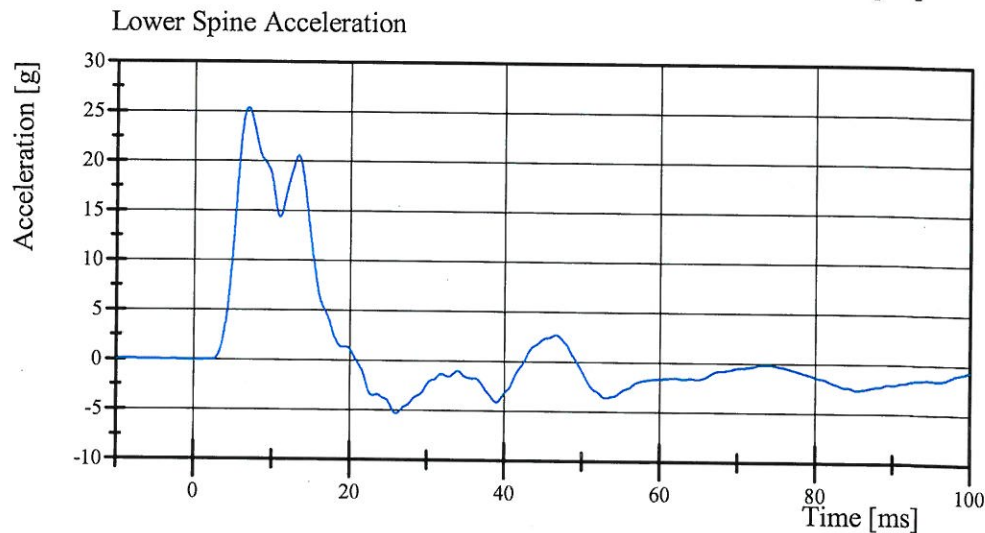
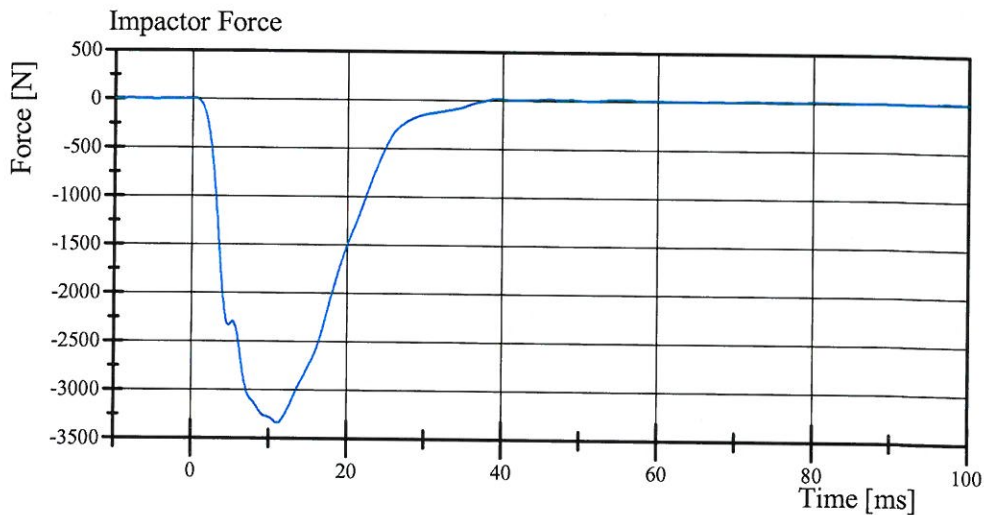
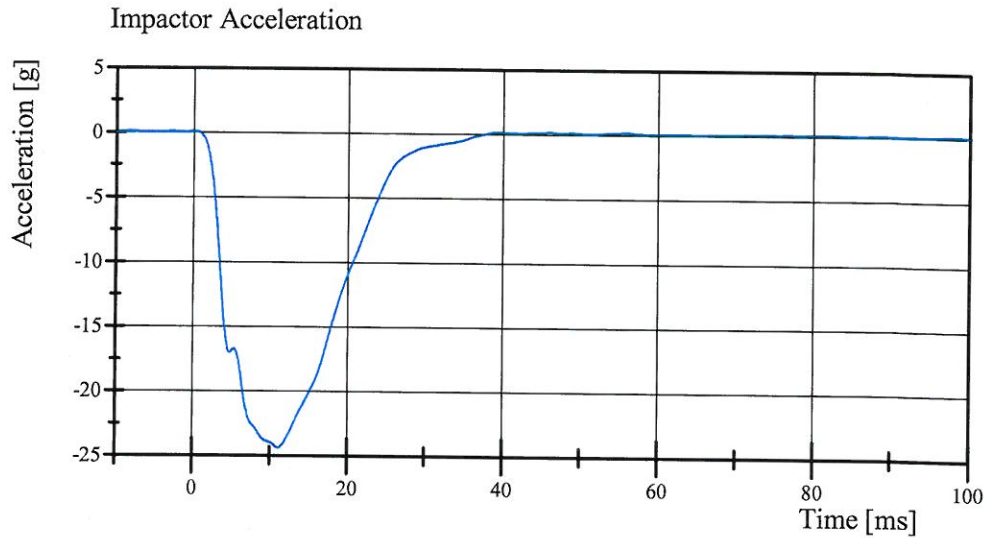


Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-2

Test Date: 8/13/2012



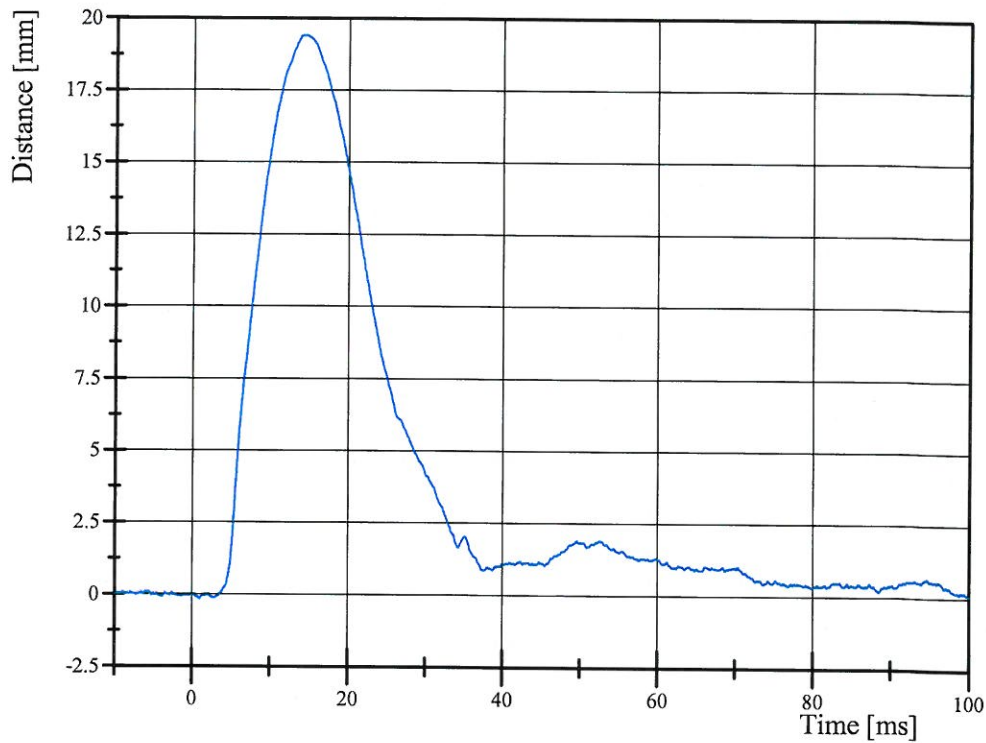
Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-2

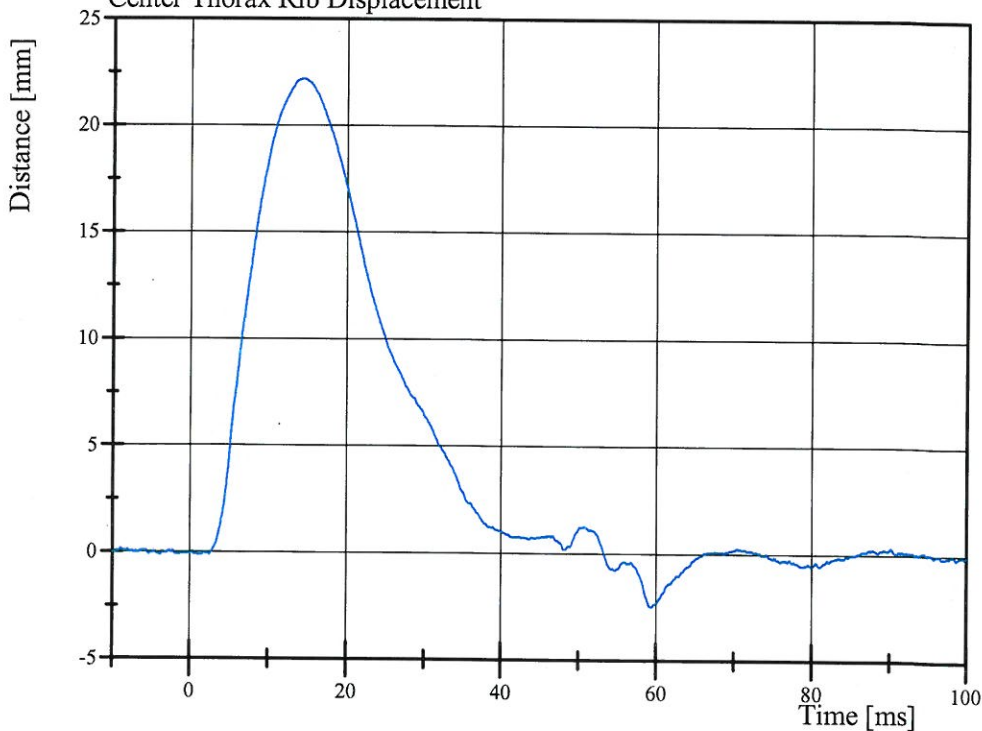
Test Date: 8/13/2012

Upper Thorax Rib Displacement



Filter Class: CFC_600
Max: 19.4 mm at 14.3 ms
Min: -0.2 mm at 1.0 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 22.2 mm at 14.3 ms
Min: -2.5 mm at 59.4 ms

Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	64 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.31 m/s	Yes
Impactor Force	(-2,210) - (-2,700) N	-2,695.1 N	Yes
Upper Abdominal Rib Displacement	23.1 - 31.2 mm	24.17 mm	Yes
Lower Abdominal Rib Displacement	22.7 - 27.8 mm	22.06 mm	No
Lower Spine Lateral Acceleration	24.4 - 30.6 g	28.80 g	Yes

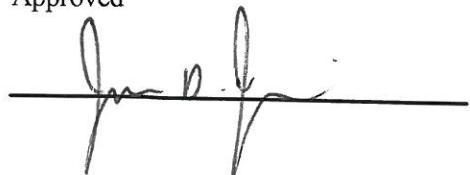
Test does not meet specifications.

Comments:

Technician



Approved

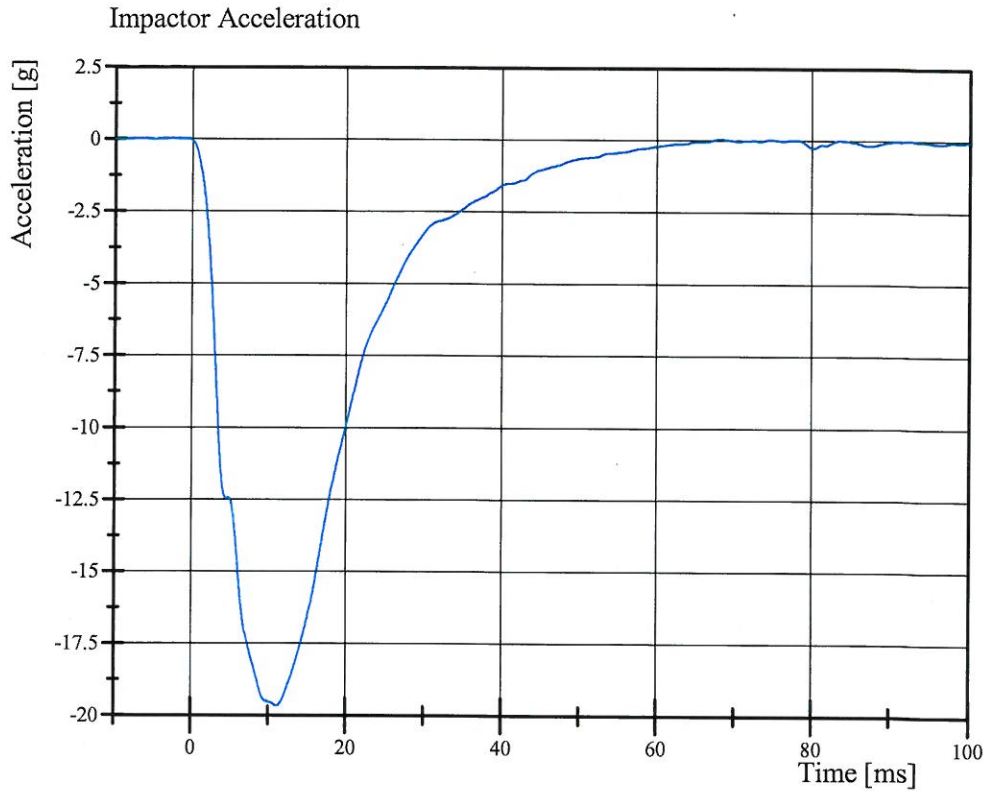


Transportation Research Center Inc.

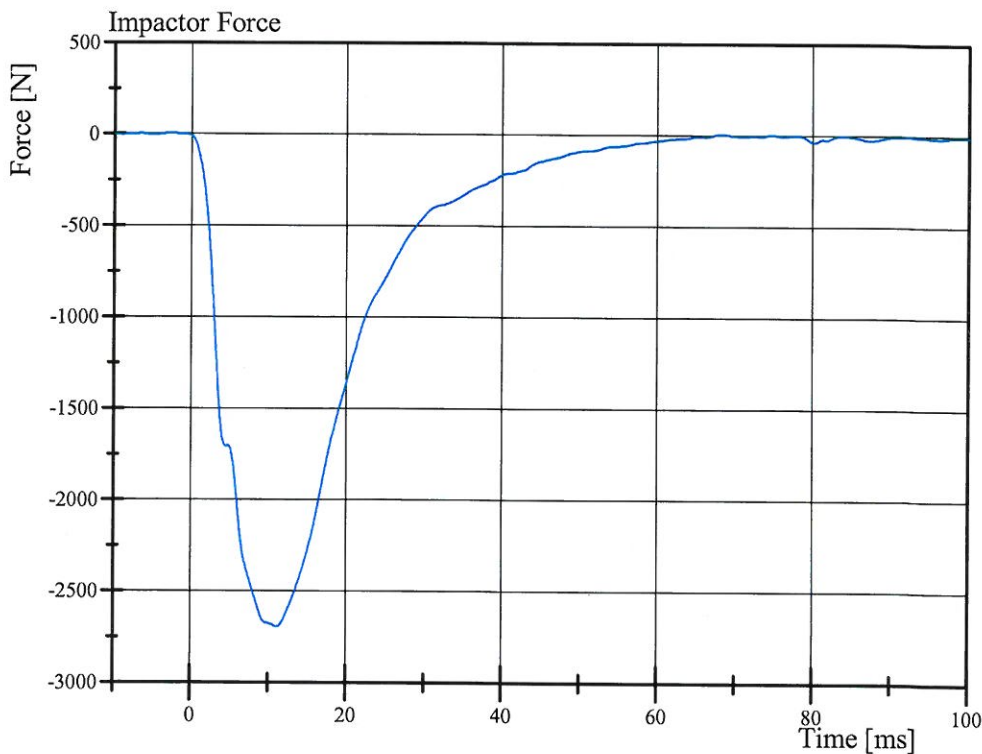
Left Lateral Abdomen

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/14/2012



Filter Class: CFC_180
Max: 0.0 gn at 68.2 ms
Min: -19.7 gn at 11.1 ms



Filter Class: CFC_180
Max: 5.5 N at 68.2 ms
Min: -2,695.1 N at 11.1 ms

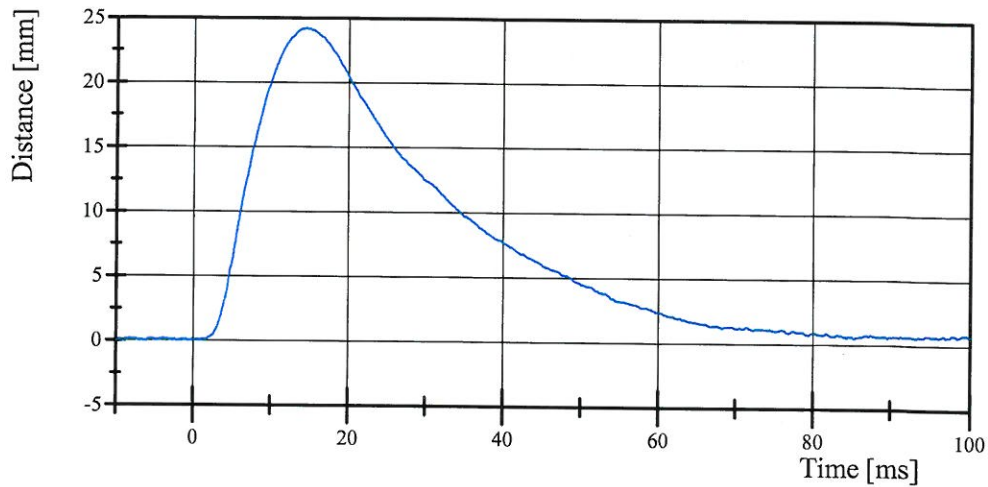
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

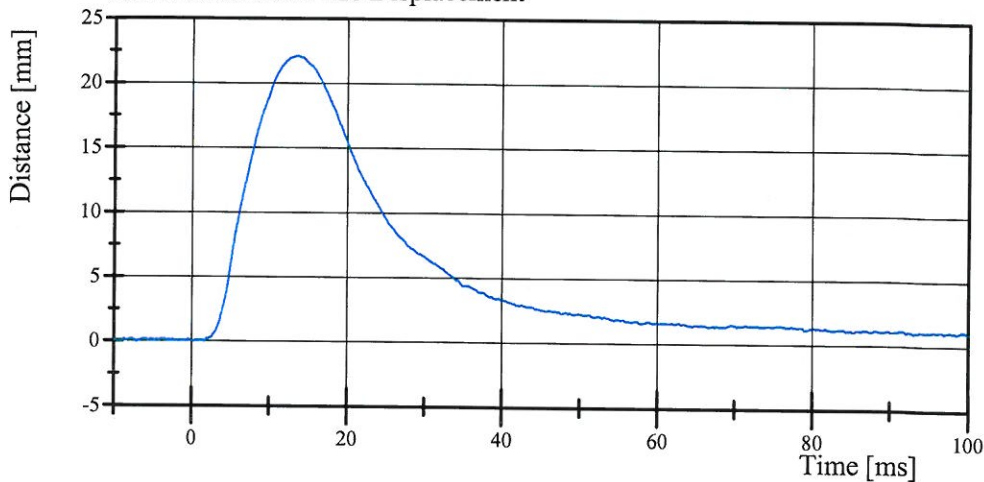
Test Date: 8/14/2012

Upper Abdominal Rib Displacement



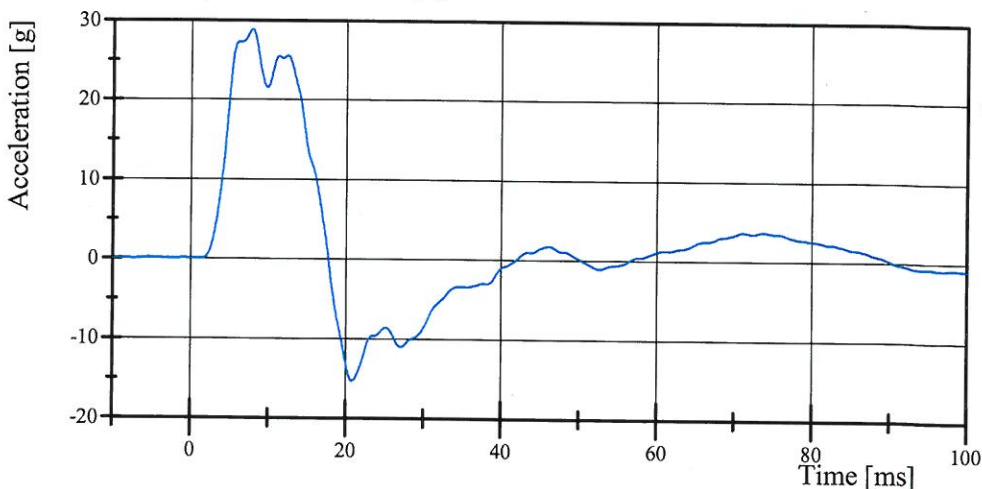
Filter Class: CFC_600
Max: 24.2 mm at 14.5 ms
Min: -0.1 mm at -9.1 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 22.1 mm at 13.5 ms
Min: -0.1 mm at -7.1 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 28.8 gn at 7.9 ms
Min: -15.4 gn at 20.8 ms

Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

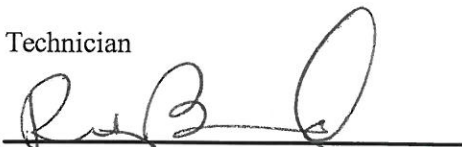
Test Date: 8/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	66 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.72 m/s	Yes
Impactor Force	(-4,620) - (-5,650) N	-4,796.2 N	Yes
Pelvis Lateral Acceleration	48.6 - 74.4 g	64.37 g	Yes
Lower Spine Lateral Acceleration	11.8 - 15.8 g	13.60 g	Yes
Pubic Lateral Force	(-770) - (-1,200) N	-1,023.7 N	Yes

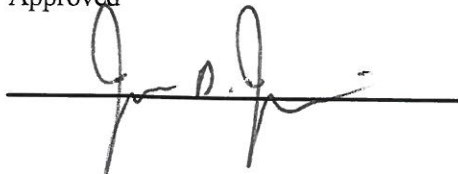
Test meets specifications.

Comments:

Technician



Approved

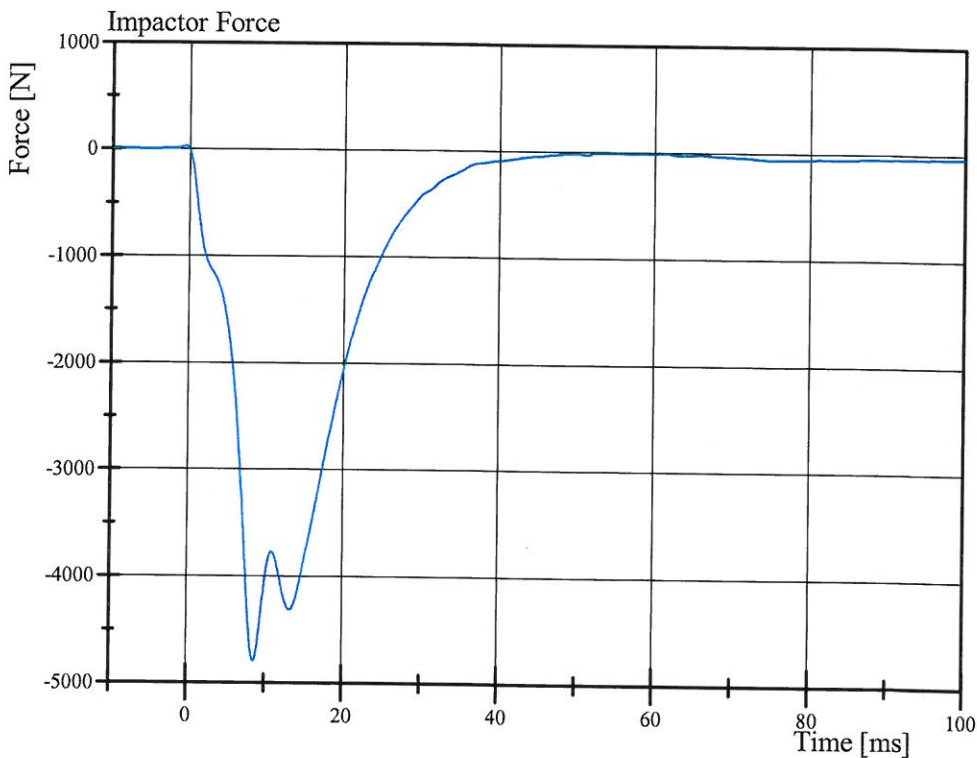
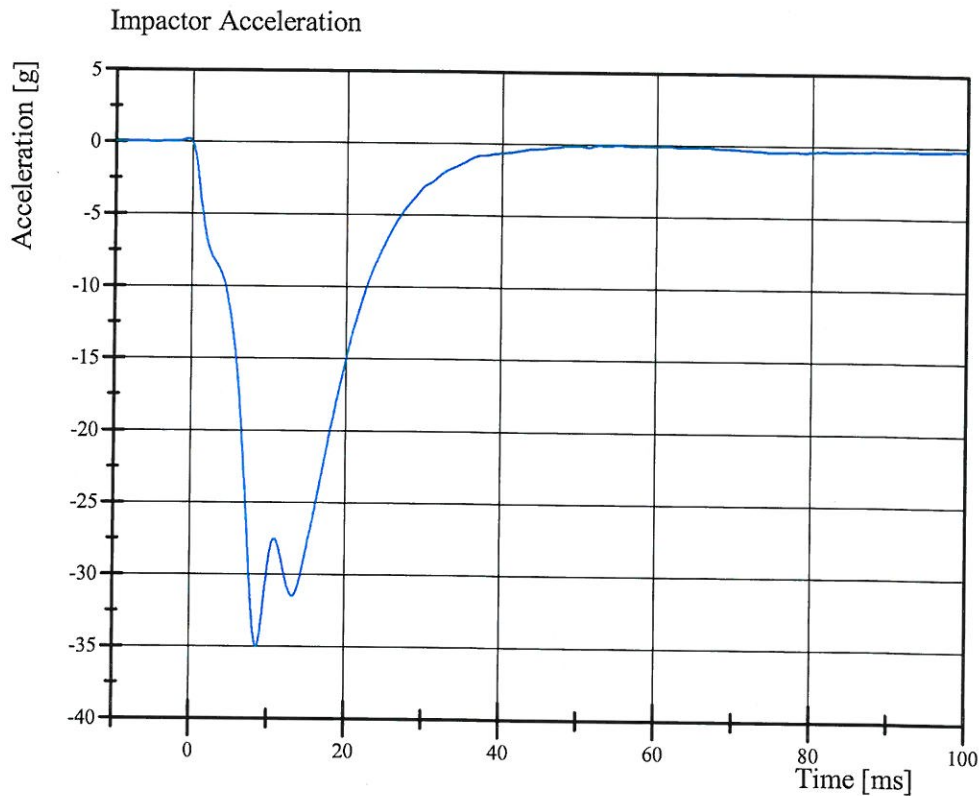


Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

Test Date: 8/14/2012



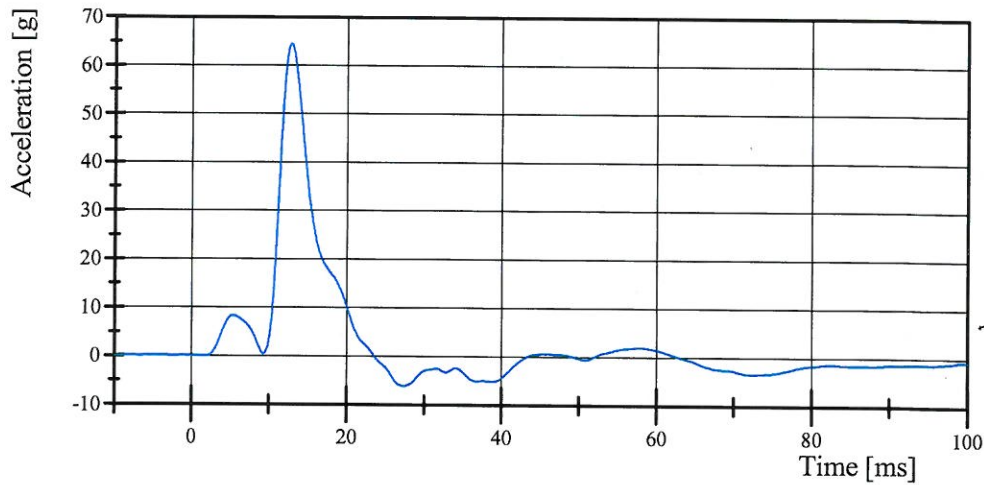
Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID W5-9900 Rev C Serial No. 236 Certification No. 1-1

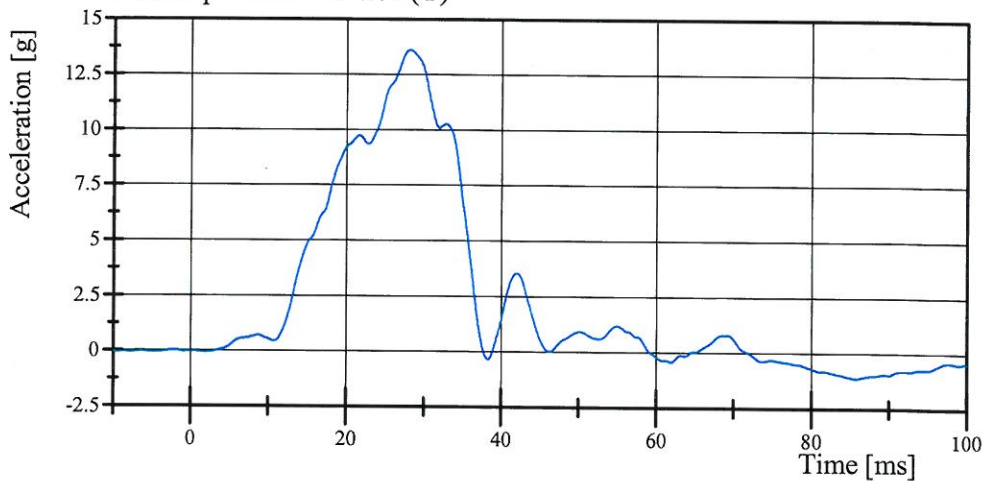
Test Date: 8/14/2012

Pelvis Y-Axis Acceleration



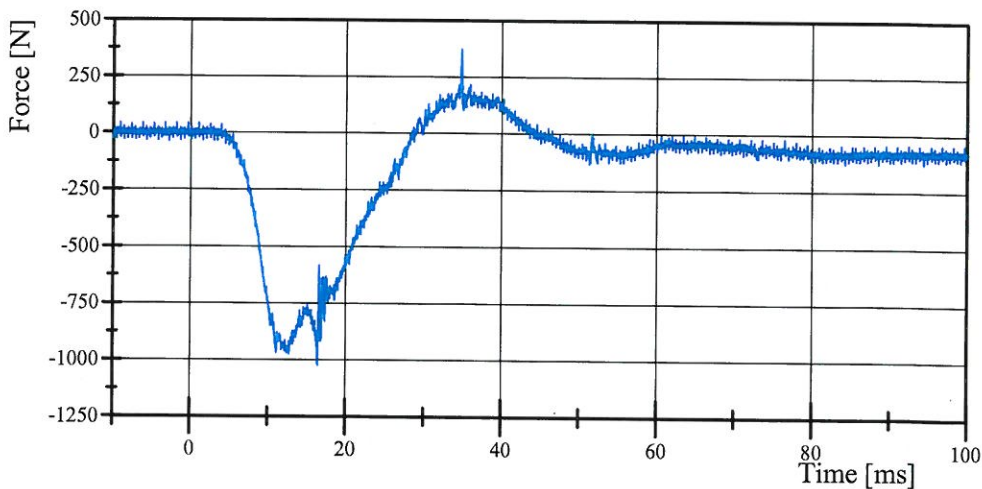
Filter Class: CFC_180
Max: 64.4 gn at 12.8 ms
Min: -6.1 gn at 27.3 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 13.6 gn at 28.1 ms
Min: -1.1 gn at 85.8 ms

Pubic Lateral Force



Filter Class: CFC_1000
Max: 370.9 N at 34.8 ms
Min: -1,023.7 N at 16.5 ms

Appendix D

Miscellaneous Test Information

Sign Convention
SAE J211 MAR95

Accelerometers:

+X: Forward
+Y: Rightward
+Z: Downward

Potentiometers:

+Chest longitudinal deflection: Outward
+Chest lateral deflection: Rightward
+Seat belt displacement: Outward
+Seat belt extension: Elongation
+Knee slider displacement: Distance between femur and tibia
increased (in relation to a seated
dummy)

Rotation potentiometers:

+About the X-axis: Left foot-eversion
Right foot-inversion
+About the Y-axis: Left/right foot-dorsiflexion
+About the Z-axis: Left foot-internal
Right foot-external

Load cells:

+Femur force: Tension
+Seat belt force: Tension
+Barrier force: Tension

Neck load cells:

+X force: Head pushed rearward
+Y force: Head pushed leftward
+Z force: Head pulled upward (tension on neck)
+X moment: Left ear rotating toward left shoulder
+Y moment: Chin rotating toward chest
+Z moment: Chin rotating toward left shoulder

Tibia load cells:

+X force: Ankle forward, knee rearward
+Y force: Ankle rightward, knee leftward
+Z force: Tension
+X moment: Bottom of tibia moving leftward
+Y moment: Bottom of tibia moving rearward

Sign Convention (Continued)
SAE J211 MAR95

<u>Lumbar load cells:</u>	+X force:	Chest rearward, pelvis forward
	+Y force:	Chest leftward, pelvis rightward
	+Z force:	Chest upward, pelvis downward
	+X moment:	Left shoulder toward left hip
	+Y moment:	Sternum toward front of legs
	+Z moment:	Right shoulder forward, left shoulder rearward

Frequency Response Classes
SAE J211 MAR95

<u>Typical Test Measurements</u>	<u>Channel Class</u>
Vehicle Structural Accelerations for use in:	
Total vehicle comparison	60
Collision simulation input	60
Component analysis	600
Integration for velocity or displacement	180
Barrier Face Forces	60
Belt Restraint System Loads	60
Anthropomorphic Test Device	
Head accelerations (linear and angular)	1000
Neck	
Forces	1000
Moments	600
Thorax	
Spine accelerations	180
Rib accelerations	1000
Sternum accelerations	1000
Deflections	600
Lumbar	
Forces	1000
Moments	1000
Pelvis	
Accelerations	1000
Forces	1000
Moments	1000
Femur/Knee/Tibia/Ankle	
Forces	600
Moments	600
Displacements	180
Sled Accelerations	60
Steering Column Loads	600
Head Form Accelerations	1000

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. The polarity column indicates whether a polarity change occurred during data acquisition to conform to J211 MAR95. See Report Sign Convention sheet for description of data output as presented in the report: occasionally channels have been adjusted in post-acquisition processing to conform to J211 MAR95.

Channel Report Test Number 120906

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity
1	Trig D1	10ZERO000000VO0A	EVENT	1	Logic	Bipolar
2	ARS-PRO-18K-ARS4730	11HEADCG00WSANXA	Head X-Axis Angular Displacement	18000	°/s	Bipolar
3	ARS-PRO-18K-ARS4732	11HEADCG00WSANYA	Head Y-Axis Angular Displacement	18000	°/s	Bipolar
4	ARS-PRO-18K-ARS4711	11HEADCG00WSANZA	Head Z-Axis Angular Displacement	18000	°/s	Bipolar
5	ARS-PRO-18K-ARS4718	14HEADCG00WSANXA	Head X-Axis Angular Displacement	18000	°/s	Bipolar
6	ARS-PRO-18K-ARS4719	14HEADCG00WSANYA	Head Y-Axis Angular Displacement	18000	°/s	Bipolar
7	ARS-PRO-18K-ARS4726	14HEADCG00WSANZA	Head Z-Axis Angular Displacement	18000	°/s	Bipolar
8	P74811	11VEHCCG0000ACXA	Vehicle CG (X)	2000	g	Bipolar
9	P74521	11VEHCCG0000ACYA	Vehicle CG (Y)	2000	g	-Bipolar
10	P75770	11VEHCCG0000ACZA	Vehicle CG (Z)	2000	g	-Bipolar
11	P75515	11SILBRIFR00ACXA	Right Front Sill at Front Seat (X)	2000	g	Bipolar
12	P74455	11SILBRIFR00ACYA	Right Front Sill at Front Seat (Y)	2000	g	Bipolar
13	P74495	11SILBRIFR00ACZA	Right Front Sill at Front Seat (Z)	2000	g	-Bipolar
14	P74850	11SILBRIRE00ACXA	Right Rear Sill at Rear Seat (X)	2000	g	Bipolar
15	P74498	11SILBRIRE00ACYA	Right Rear Sill at Rear Seat (Y)	2000	g	-Bipolar
16	P75574	11SILBRIRE00ACZA	Right Rear Sill at Rear Seat (Z)	2000	g	-Bipolar
17	P75991	11SILBLEFR00ACYA	Left Side Sill at Front Seat (Y)	2000	g	Bipolar
18	P75238	11SILBLERE00ACYA	Left Side Sill at Rear Seat (Y)	2000	g	Bipolar
19	P74546	11APILLO0000ACYA	Left Lower A Post (Y)	2000	g	-Bipolar
20	P74491	11APILMI0000ACYA	Left Middle A-Post (Y)	2000	g	-Bipolar
21	P75774	11BPILLO0000ACYA	Left Lower B Post (Y)	2000	g	-Bipolar
22	P75111	11BPILMI0000ACYA	Left Middle B Post (Y)	2000	g	-Bipolar
23	P66701	11SETR000000ACYA	Front Seat Track (Y)	2000	g	Bipolar
24	P73568	11SETRLERE00ACYA	LEFT REAR SEAT STRUCTURE AY	2000	g	-Bipolar
25	P75116	112OCCRIRE00ACYA	RIGHT REAR OCCUPANT COMPARTMENT AY	2000	g	-Bipolar

Channel Report Test Number 120906 Continued

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity
26	P66747	11ENGNTPO000ACXA	ENGINE BLOCK AX	2000	g	Bipolar
27	P74248	11ENGNTPO000ACYA	ENGINE BLOCK AY	2000	g	-Bipolar
28	P75103	11FORA000000ACXA	Rear Floor Pan Above Axle (X)	2000	g	Bipolar
29	P75767	11FORA000000ACYA	Rear Floor Pan Above Axle (Y)	2000	g	-Bipolar
30	P72279	11FORA000000ACZA	Rear Floor Pan Above Axle (Z)	2000	g	-Bipolar
31	P74233	11VEHEDR0000ACXA	Vehicle at EDR (X)	2000	g	Bipolar
32	P74477	11VEHEDR0000ACYA	Vehicle at EDR (Y)	2000	g	-Bipolar
33	P74457	11VEHEDR0000ACZA	Vehicle at EDR (Z)	2000	g	-Bipolar
34	P74084	10DECKRR0000ACXA	REAR DECK AX	2000	g	Bipolar
35	P75105	10DECKRR0000ACYA	REAR DECK AY	2000	g	-Bipolar
36	P74519	10DECKRR0000ACZA	REAR DECK AZ	2000	g	-Bipolar
37	ARS-1500-ARS0330	10VEHCCG0000AVXA	VEHICLE CENTER OF GRAVITY (X) ROLL RATE GYRO	1500	°/s	Bipolar
38	ARS-1500-ARS0010	10VEHCCG0000AVYA	VEHICLE CENTER OF GRAVITY (Y) PITCH RATE GYRO	1500	°/s	-Bipolar
39	ARS-1500-ARS0738	10VEHCCG0000AVZA	VEHICLE CENTER OF GRAVITY (Z) YAW RATE GYRO	1500	°/s	-Bipolar
40	ARS-1500-ARS0323	10VEHEDR0000AVXA	VEHICLE AT EDR (X) ROLL RATE GYRO	1500	°/s	Bipolar
41	ARS-1500-ARS0300	10VEHEDR0000AVYA	VEHICLE AT EDR (Y) PITCH RATE GYRO	1500	°/s	Bipolar
42	ARS-1500-ARS2331	10VEHEDR0000AVZA	VEHICLE AT EDR (Z) YAW RATE GYRO	1500	°/s	Bipolar
43	ARS-1500-ARS4512	10DECKRR0000AVXA	REAR DECK (X) ROLL RATE GYRO	1500	°/s	Bipolar
44	ARS-1500-ARS4783	10DECKRR0000AVYA	REAR DECK (Y) PITCH RATE GYRO	1500	°/s	Bipolar
45	ARS-1500-ARS4511	10DECKRR0000AVZA	REAR DECK (Z) YAW RATE GYRO	1500	°/s	Bipolar
46	P75994	11DOORMIMI71ACYA	Left Front Door Mid Centerline (Y)	2000	g	Bipolar
47	P61744	11DOORMIRE71ACYA	Left Front Door Mid Rear (Y)	2000	g	Bipolar
48	P64893	11DOORMIUP71ACYA	Left Front Door Upper Centerline (Y)	2000	g	Bipolar
49	P74176	14DOORMIRE71ACYA	Left Rear Door Mid Rear (Y)	2000	g	Bipolar
50	P74452	14DOORMIUP71ACYA	Left Rear Door Upper Centerline (Y)	2000	g	Bipolar
51	ABFire1	11SENS000000VO00	Driver primary	5	V	Bipolar
52	ABFire2	11SENS010000VO00	SAB TIMING IND	5	V	Bipolar

Channel Report Test Number 120906 Continued

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity
53	ABFire3	11SENS020000VO00	SCAB TIMING IND	5	V	Bipolar
54	Bit.00	11HEADCONT00VO0A	Head Contact	1	Logic	Bipolar
55	Bit.01	11SHLDCONT00VO0A	Shoulder Contact	1	Logic	Bipolar
56	Bit.02	11THORCONT00VO0A	Thorax Contact	1	Logic	Bipolar
57	Bit.03	11LEGCONT000VO0A	Leg Contact	1	Logic	Bipolar
58	Bit.04	14HEADCONT00VO0A	Head Contact	1	Logic	Bipolar
59	Bit.05	14SHLDCONT00VO0A	Shoulder Contact	1	Logic	Bipolar
60	Bit.06	14THORCONT00VO0A	Thorax Contact	1	Logic	Bipolar
61	Bit.07	14LEGCONT000VO0A	Leg Contact	1	Logic	Bipolar
62	Bit.08	14PELVFR00WFEV0A	Pelvis Contact Frnt	1	Logic	Bipolar
63	Bit.09	14PELVMI00WFEV0A	Pelvis Contact Mid	1	Logic	Bipolar
64	Bit.10	14PELVRE00WFEV0A	Pelvis Contact Rear	1	Logic	Bipolar
65	P75759	M0MBARCG0000ACXA	MDB CG AX	2000	g	Bipolar
66	P75764	M0MBARCG0000ACYA	MDB CG AY	2000	g	Bipolar
67	P75104	M0MBARCG0000ACZA	MDB CG AZ	2000	g	-Bipolar
68	P75771	M0FRAMRE0000ACXA	MDB REAR AX	2000	g	Bipolar
69	P74496	M0FRAMRE0000ACYA	MDB REAR AY	2000	g	-Bipolar

Command File Test Number 120906

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
1	11HEADCG00WSACXA	Head Longitudinal Ax	1000	+	no	400
2	11HEADCG00WSACYA	Head Lateral Ay	1000	+	no	400
3	11HEADCG00WSACZA	Head Vertical Az	1000	+	no	400
3A	11HEADCG00WSACRA	Head A Resultant	1000			
4	11HEAD0000WSAAXA	Head Rotational Acceleration Rx	1000	-	no	50000
5	11HEAD0000WSAAYA	Head Rotational Acceleration Ry	1000	+	no	50000
6	11HEAD0000WSAAZA	Head Rotational Acceleration Rz	1000	+	no	50000
7	11HEADCG00WSAVXA	Head X-Axis Angular Velocity	1000	+	no	1800
8	11HEADCG00WSAVYA	Head Y-Axis Angular Velocity	1000	+	no	1800
9	11HEADCG00WSAVZA	Head Z-Axis Angular Velocity	1000	+	no	1800
10	11NECKUP00WSFOXA	Neck Upper Force Fx	1000	-	no	10000
11	11NECKUP00WSFOYA	Neck Upper Force Fy	1000	+	no	10000
12	11NECKUP00WSFOZA	Neck Upper Force Fz	1000	-	no	12000
13	11NECKUP00WSMOXA	Neck Upper Moment Mx	600	-	no	300
14	11NECKUP00WSMOYA	Neck Upper Moment My	600	+	no	300
15	11NECKUP00WSMOZA	Neck Upper Moment Mz	600	+	no	200
16	11NECKLO00WSFOXA	Neck Lower Force Fx	1000	+	no	10000
17	11NECKLO00WSFOYA	Neck Lower Force Fy	1000	+	no	10000
18	11NECKLO00WSFOZA	Neck Lower Force Fz	1000	-	no	12000
19	11NECKLO00WSMOXA	Neck Lower Moment Mx	600	+	no	300
20	11NECKLO00WSMOYA	Neck Lower Moment My	600	+	no	300
21	11NECKLO00WSMOZA	Neck Lower Moment Mz	600	+	no	200
22	11SHLDLE00WSACXA	Shoulder Longitudinal Ax	1000	+	no	400
23	11SHLDLE00WSACYA	Shoulder Lateral Ay	1000	+	no	400
24	11SHLDLE00WSACZA	Shoulder Vertical Az	1000	+	no	400
24A	11SHLDLE00WSACRA	Shoulder A Resultant	1000			
25	11SHLDLE00WSFOXA	Shoulder Force Fx	600	+	no	5000

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
26	11SHLDLE00WSFOYA	Shoulder Force Fy	600	-	no	10000
27	11SHLDLE00WSFOZA	Shoulder Force Fz	600	-	no	5000
28	11SHRILE00WSDSYA	Shoulder Displacement Dy	600	+	no	90
29	11THSP0100WSACXA	T1 Longitudinal Ax	180	+	no	400
30	11THSP0100WSACYA	T1 Lateral Ay	180	+	no	400
31	11THSP0100WSACZA	T1 Veritcal Az	180	-	no	400
31A	11THSP0100WSACRA	T1 A Resultant	180			
32	11TRRILE01WSACXA	Thorax Rib 1 Longitudinal Ax	1000	+	no	400
33	11TRRILE01WSACYA	Thorax Rib 1 Lateral Ay	1000	+	no	400
34	11TRRILE01WSACZA	Thorax Rib 1 Vertical Az	1000	+	no	400
34A	11TRRILE01WSACRA	Thorax Rib 1 A Resultant	1000			
35	11TRRILE01WSDSYA	Thorax Rib 1 Displacement Dy	600	+	no	90
36	11TRRILE02WSACXA	Thorax Rib 2 Longitudinal Ax	1000	+	no	400
37	11TRRILE02WSACYA	Thorax Rib 2 Lateral Ay	1000	+	no	400
38	11TRRILE02WSACZA	Thorax Rib 2 Vertical Az	1000	+	no	400
38A	11TRRILE02WSACRA	Thorax Rib 2 A Resultant	1000			
39	11TRRILE02WSDSYA	Thorax Rib 2 Displacement Dy	600	+	no	90
40	11TRRILE03WSACXA	Thorax Rib 3 Longitudinal Ax	1000	+	no	400
41	11TRRILE03WSACYA	Thorax Rib 3 Lateral Ay	1000	+	no	400
42	11TRRILE03WSACZA	Thorax Rib 3 Vertical Az	1000	+	no	400
42A	11TRRILE03WSACRA	Thorax Rib 3 A Resultant	1000			
43	11TRRILE03WSDSYA	Thorax Rib 3 Displacement Dy	600	+	no	90
44	11ABRILE01WSACXA	Abdominal Rib 1 Longitudinal Ax	1000	+	no	2000
45	11ABRILE01WSACYA	Abdominal Rib 1 Lateral Ay	1000	+	no	2000
46	11ABRILE01WSACZA	Abdominal Rib 1 Vertical Az	1000	+	no	2000
46A	11ABRILE01WSACRA	Abdominal Rib 1 A Resultant	1000			
47	11ABRILE01WSDSYA	Abdominal Rib 1 Displacement Dy	600	+	no	90
48	11ABRILE02WSACXA	Abdominal Rib 2 Longitudinal Ax	1000	+	no	400

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
49	11ABRILE02WSACYA	Abdominal Rib 2 Lateral Ay	1000	+	no	400
50	11ABRILE02WSACZA	Abdominal Rib 2 Vertical Az	1000	+	no	400
50A	11ABRILE02WSACRA	Abdominal Rib 2 A Resultant	1000			
51	11ABRILE02WSDSYA	Abdominal Rib 2 Displacement Dy	600	+	no	90
52	11THSP0400WSACXA	T4 Longitudinal Ax	180	+	no	400
53	11THSP0400WSACYA	T4 Lateral Ay	180	+	no	400
54	11THSP0400WSACZA	T4 Vertical Az	180	+	no	400
54A	11THSP0400WSACRA	T4 A Resultant	180			
55	11THSP1200WSACXA	T12 Longitudinal Ax	180	+	no	400
56	11THSP1200WSACYA	T12 Lateral Ay	180	+	no	400
57	11THSP1200WSACZA	T12 Vertical Az	180	+	no	400
57A	11THSP1200WSACRA	T12 A Resultant	180			
58	11PELV0000WSACXA	Pelvis Longitudinal Ax	1000	+	no	400
59	11PELV0000WSACYA	Pelvis Lateral Ay	1000	+	no	400
60	11PELV0000WSACZA	Pelvis Vertical Az	1000	+	no	400
60A	11PELV0000WSACRA	Pelvis A Resultant	1000			
61	11PUBC0000WSFOYA	Pubic Force Fy	600	-	no	12000
62	11LUSP0000WSFOXA	Lumbar Force Fx	600	+	no	10000
63	11LUSP0000WSFOYA	Lumbar Force Fy	600	+	no	10000
64	11LUSP0000WSFOZA	Lumbar Force Fz	600	-	no	12000
65	11LUSP0000WSMOXA	Lumbar Moment Mx	600	+	no	300
66	11LUSP0000WSMOYA	Lumbar Moment My	600	+	no	300
67	11LUSP0000WSMOZA	Lumbar Moment Mz	600	+	no	200
68	11SACRRI00WSMOXA	Sacro-Iliac Right Moment Mx	600	+	no	1000
69	11SACRRI00WSMOYA	Sacro-Iliac Right Moment My	600	+	no	400
70	11SACRRI00WSMOZA	Sacro-Iliac Right Moment Mz	600	+	no	400
71	11SACRRI00WSFOXA	Sacro-Iliac Right Force Fx	600	+	no	6000
72	11SACRRI00WSFOYA	Sacro-Iliac Right Force Fy	600	-	no	12000

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
73	11SACRRI00WSFOZA	Sacro-Iliac Right Force Fz	600	-	no	6000
74	11SACRLE00WSMOXA	Sacro-Iliac Left Moment Mx	600	+	no	1000
75	11SACRLE00WSMOYA	Sacro-Iliac Left Moment My	600	+	no	400
76	11SACRLE00WSMOZA	Sacro-Iliac Left Moment Mz	600	+	no	400
77	11SACRLE00WSFOXA	Sacro-Iliac Left Force Fx	600	+	no	6000
78	11SACRLE00WSFOYA	Sacro-Iliac Left Force Fy	600	-	no	12000
79	11SACRLE00WSFOZA	Sacro-Iliac Left Force Fz	600	+	no	6000
80	11FEMRLEMIWSFOXA	Left Mid Femur Force Fx	600	+	no	15000
81	11FEMRLEMIWSFOYA	Left Mid Femur Force Fy	600	+	no	15000
82	11FEMRLEMIWSFOZA	Left Mid Femur Force Fz	600	-	no	15000
83	11FEMRLEMIWSMOXA	Left Mid Femur Moment Mx	600	+	no	350
84	11FEMRLEMIWSMOYA	Left Mid Femur Moment My	600	+	no	350
85	11FEMRLEMIWSMOZA	Left Mid Femur Moment Mz	600	+	no	300
86	11FEACLE00WSFOXA	Left Femoral Neck Force Fx	600	-	no	10000
87	11FEACLE00WSFOYA	Left Femoral Neck Force Fy	600	-	no	25000
88	11FEACLE00WSFOZA	Left Femoral Neck Force Fz	600	-	no	10000
89	11FEACRI00WSFOXA	Right Femoral Neck Force Fx	600	-	no	10000
90	11FEACRI00WSFOYA	Right Femoral Neck Force Fy	600	-	no	25000
91	11FEACRI00WSFOZA	Right Femoral Neck Force Fz	600	-	no	10000
92	11KNEELEOUWSFOYA	Left Knee Outboard Force Fy	600	+	no	20000
93	11KNEELEINWSFOYA	Left Knee Inboard Force Fy	600	+	no	20000
94	14HEADCG00WFACXA	Head Longitudinal Ax	1000	+	no	400
95	14HEADCG00WFACYA	Head Lateral Ay	1000	+	no	400
96	14HEADCG00WFACZA	Head Vertical Az	1000	-	no	400
96A	14HEADCG00WFACRA	Head A Resultant	1000			
97	14HEAD0000WFAAXA	Head Rotational Acceleration Rx	1000	+	no	50000
98	14HEAD0000WFAAYA	Head Rotational Acceleration Ry	1000	+	no	50000
99	14HEAD0000WFAAZA	Head Rotational Acceleration Rz	1000	+	no	50000

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
100	14HEADCG00WFAVXA	Head X-Axis Angular Velocity	1000	+	no	1800
101	14HEADCG00WFAVYA	Head Y-Axis Angular Velocity	1000	+	no	1800
102	14HEADCG00WFAVZA	Head Z-Axis Angular Velocity	1000	+	no	1800
103	14NECKUP00WFFOXA	Neck Upper Force Fx	1000	+	no	10000
104	14NECKUP00WFFOYA	Neck Upper Force Fy	1000	+	no	10000
105	14NECKUP00WFFOZA	Neck Upper Force Fz	1000	+	no	12000
106	14NECKUP00WFMOXA	Neck Upper Moment Mx	600	-	no	200
107	14NECKUP00WFMOYA	Neck Upper Moment My	600	+	no	300
108	14NECKUP00WFMOZA	Neck Upper Moment Mz	600	+	no	200
109	14NECKLO00WFFOXA	Neck Lower Force Fx	1000	+	no	10000
110	14NECKLO00WFFOYA	Neck Lower Force Fy	1000	+	no	10000
111	14NECKLO00WFFOZA	Neck Lower Force Fz	1000	+	no	12000
112	14NECKLO00WFMOXA	Neck Lower Moment Mx	600	+	no	300
113	14NECKLO00WFMOYA	Neck Lower Moment My	600	+	no	300
114	14NECKLO00WFMOZA	Neck Lower Moment Mz	600	+	no	200
115	14SHLDLE00WFACXA	Shoulder Longitudinal Ax	1000	+	no	400
116	14SHLDLE00WFACYA	Shoulder Lateral Ay	1000	+	no	400
117	14SHLDLE00WFACZA	Shoulder Vertical Az	1000	+	no	400
117A	14SHLDLE00WFACRA	Shoulder A Resultant	1000			
118	14SHLDLE00WFFOXA	Shoulder Force Fx	600	-	no	4000
119	14SHLDLE00WFFOYA	Shoulder Force Fy	600	+	no	5000
120	14SHLDLE00WFFOZA	Shoulder Force Fz	600	-	no	4000
121	14SHLDLE00WFDSYA	Shoulder Displacement Dy	600	+	no	102
122	14THSP0100WFACXA	T1 Longitudinal Ax	180	+	no	400
123	14THSP0100WFACYA	T1 Lateral Ay	180	+	no	400
124	14THSP0100WFACZA	T1 Vertical Az	180	+	no	400
124A	14THSP0100WFACRA	T1 A Resultant	180			
125	14TRRILE01WFACXA	Thorax Rib 1 Longitudinal Ax	1000	+	no	400

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
126	14TRRILE01WFACYA	Thorax Rib 1 Lateral Ay	1000	+	no	400
127	14TRRILE01WFACZA	Thorax Rib 1 Vertical Az	1000	+	no	400
127A	14TRRILE01WFACRA	Thorax Rib 1 A Resultant	1000			
128	14TRRILE01WFDCOA	THX RIB 1 IRTRAC Compression	600	+	no	110
129	14TRRILE01WFANZA	Thorax Rib 1 Rotational angle	1000	+	no	90
130	14TRRILE01WFDSXA	Thorax Rib 1 IRTRAC X Deflection	600	+	no	110
131	14TRRILE01WFDSYA	Thorax Rib 1 IRTRAC Y Deflection	600	+	no	110
132	14TRRILE02WFACXA	Thorax Rib 2 Longitudinal Ax	1000	+	no	400
133	14TRRILE02WFACYA	Thorax Rib 2 Lateral Ay	1000	+	no	400
134	14TRRILE02WFACZA	Thorax Rib 2 Vertical Az	1000	+	no	400
134A	14TRRILE02WFACRA	Thorax Rib 2 A Resultant	1000			
135	14TRRILE02WFDCOA	THX RIB 2 IRTRAC Compression	600	+	no	110
136	14TRRILE02WFANZA	Thorax Rib 2 Rotational angle	1000	+	no	90
137	14TRRILE02WFDSXA	Thorax Rib 2 IRTRAC X Deflection	600	+	no	110
138	14TRRILE02WFDSYA	Thorax Rib 2 IRTRAC Y Deflection	600	+	no	110
139	14TRRILE03WFACXA	Thorax Rib 3 Longitudinal Ax	1000	+	no	400
140	14TRRILE03WFACYA	Thorax Rib 3 Lateral Ay	1000	+	no	400
141	14TRRILE03WFACZA	Thorax Rib 3 Vertical Az	1000	+	no	400
141A	14TRRILE03WFACRA	Thorax Rib 3 A Resultant	1000			
142	14TRRILE03WFDCOA	THX RIB 3 IRTRAC Compression	600	+	no	110
143	14TRRILE03WFANZA	Thorax Rib 3 Rotational angle	1000	+	no	90
144	14TRRILE03WFDSXA	Thorax Rib 3 IRTRAC X Deflection	600	+	no	110
145	14TRRILE03WFDSYA	Thorax Rib 3 IRTRAC Y Deflection	600	+	no	110
146	14ABRILE01WFACXA	Abdominal Rib 1 Longitudinal Ax	1000	+	no	400
147	14ABRILE01WFACYA	Abdominal Rib 1 Lateral Ay	1000	+	no	400
148	14ABRILE01WFACZA	Abdominal Rib 1 Vertical Az	1000	+	no	400
148A	14ABRILE01WFACRA	Abdominal Rib 1 A Resultant	1000			
149	14ABRILE01WFDCOA	ABD RIB 1 IRTRAC Compression	600	+	no	110

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
150	14ABRILE01WFANZA	Abdomen Rib 1 Rotational angle	1000	+	no	90
151	14ABRILE01WFDSXA	Abdomen Rib 1 ITRAC X Deflection	600	+	no	110
152	14ABRILE01WFDSYA	Abdomen Rib 1 ITRAC Y Deflection	600	+	no	110
153	14ABRILE02WFACXA	Abdominal Rib 2 Longitudinal Ax	1000	+	no	400
154	14ABRILE02WFACYA	Abdominal Rib 2 Lateral Ay	1000	+	no	400
155	14ABRILE02WFACZA	Abdominal Rib 2 Vertical Az	1000	+	no	400
155A	14ABRILE02WFACRA	Abdominal Rib 2 A Resultant	1000			
156	14ABRILE02WFDCOA	ABD RIB 2 ITRAC Compression	600	+	no	110
157	14ABRILE02WFANZA	Abdomen Rib 2 Rotational angle	1000	+	no	90
158	14ABRILE02WFDSXA	Abdomen Rib 2 ITRAC X Deflection	600	+	no	110
159	14ABRILE02WFDSYA	Abdomen Rib 2 ITRAC Y Deflection	600	+	no	110
160	14THSP0400WFACXA	T4 Longitudinal Ax	180	+	no	400
161	14THSP0400WFACYA	T4 Lateral Ay	180	+	no	400
162	14THSP0400WFACZA	T4 Vertical Az	180	+	no	400
162A	14THSP0400WFACRA	T4 A Resultant	180			
163	14THSP1200WFACXA	T12 Longitudinal Ax	180	+	no	400
164	14THSP1200WFACYA	T12 Lateral Ay	180	+	no	400
165	14THSP1200WFACZA	T12 Vertical Az	180	+	no	400
165A	14THSP1200WFACRA	T12 A Resultant	180			
166	14PELV0000WFACXA	Pelvis Longitudinal Ax	1000	+	no	400
167	14PELV0000WFACYA	Pelvis Lateral Ay	1000	-	no	400
168	14PELV0000WFACZA	Pelvis Vertical Az	1000	+	no	400
168A	14PELV0000WFACRA	Pelvis A Resultant	1000			
169	14PUBC0000WFFOYA	Pubic Force Fy	600	-	no	12000
170	11VEHCCG0000ACXA	Vehicle CG (X)	60	+	no	2000
171	11VEHCCG0000ACYA	Vehicle CG (Y)	60	+	no	2000
172	11VEHCCG0000ACZA	Vehicle CG (Z)	60	+	no	2000
172A	11VEHCCG0000ACRA	Vehicle CG Resultant	60			

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
173	11SILBRIFR00ACXA	Right Front Sill at Front Seat (X)	60	+	yes	2000
174	11SILBRIFR00ACYA	Right Front Sill at Front Seat (Y)	60	+	yes	2000
175	11SILBRIFR00ACZA	Right Front Sill at Front Seat (Z)	60	+	yes	2000
175A	11SILBRIFR00ACRA	Right Front Sill at Front Seat Resultant	60			
176	11SILBRIRE00ACXA	Right Rear Sill at Rear Seat (X)	60	+	yes	2000
177	11SILBRIRE00ACYA	Right Rear Sill at Rear Seat (Y)	60	+	yes	2000
178	11SILBRIRE00ACZA	Right Rear Sill at Rear Seat (Z)	60	+	yes	2000
178A	11SILBRIRE00ACRA	Right Rear Sill at Rear Seat Resultant	60			
179	11SILBLEFR00ACYA	Left Side Sill at Front Seat (Y)	60	+	yes	2000
180	11SILBLERE00ACYA	Left Side Sill at Rear Seat (Y)	60	+	yes	2000
181	11APILLO0000ACYA	Left Lower A Post (Y)	60	+	yes	2000
182	11APILMI0000ACYA	Left Middle A-Post (Y)	60	+	yes	2000
183	11BPILLO0000ACYA	Left Lower B Post (Y)	60	+	yes	2000
184	11BPILMI0000ACYA	Left Middle B Post (Y)	60	+	yes	2000
185	11SETR000000ACYA	Front Seat Track (Y)	60	+	yes	2000
186	11SETRLERE00ACYA	LEFT REAR SEAT STRUCTURE AY	60	-	yes	2000
187	11VEHCRIRE00ACYA	RIGHT REAR OCCUPANT COMPARTMENT AY	60	+	yes	2000
188	11ENGNTPO000ACXA	ENGINE BLOCK AX	60	+	yes	2000
189	11ENGNTPO000ACYA	ENGINE BLOCK AY	60	+	yes	2000
190	11FORA000000ACXA	Rear Floor Pan Above Axle (X)	60	+	yes	2000
191	11FORA000000ACYA	Rear Floor Pan Above Axle (Y)	60	+	yes	2000
192	11FORA000000ACZA	Rear Floor Pan Above Axle (Z)	60	+	yes	2000
192A	11FORA000000ACRA	Rear Floor Pan Above Axle Resultant	60			
193	11VEHCEDR000ACXA	Vehicle at EDR (X)	60	+	yes	2000
194	11VEHCEDR000ACYA	Vehicle at EDR (Y)	60	+	yes	2000
195	11VEHCEDR000ACZA	Vehicle at EDR (Z)	60	+	yes	2000
195A	11VEHCEDR000ACRA	Vehicle at EDR Resultant	60			
196	10FORARD0000ACXA	REAR DECK AX	60	+	yes	2000

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
197	10FORARD0000ACYA	REAR DECK AY	60	+	yes	2000
198	10FORARD0000ACZA	REAR DECK AZ	60	+	yes	2000
198A	10FORARD0000ACRA	REAR DECK A Resultant	60			
199	10VEHCCG0000AVXA	VEHICLE CENTER OF GRAVITY (X) ROLL RATE GYRO	60	+	yes	1500
200	10VEHCCG0000AVYA	VEHICLE CENTER OF GRAVITY (Y) PITCH RATE GYRO	60	+	yes	1500
201	10VEHCCG0000AVZA	VEHICLE CENTER OF GRAVITY (Z) YAW RATE GYRO	60	-	yes	1500
202	10VEHCEDR000AVXA	VEHICLE AT EDR (X) ROLL RATE GYRO	60	+	yes	1500
203	10VEHCEDR000AVYA	VEHICLE AT EDR (Y) PITCH RATE GYRO	60	+	yes	1500
204	10VEHCEDR000AVZA	VEHICLE AT EDR (Z) YAW RATE GYRO	60	+	yes	1500
205	10FORARD0000AVXA	REAR DECK (X) ROLL RATE GYRO	60	+	yes	1500
206	10FORARD0000AVYA	REAR DECK (Y) PITCH RATE GYRO	60	+	yes	1500
207	10FORARD0000AVZA	REAR DECK (Z) YAW RATE GYRO	60	+	yes	1500
208	11DOORMIMI71ACYA	Left Front Door Mid Centerline (Y)	60	+	yes	2000
209	11DOORMIRE71ACYA	Left Front Door Mid Rear (Y)	60	+	yes	2000
210	11DOORMIUP71ACYA	Left Front Door Upper Centerline (Y)	60	+	yes	2000
211	14DOORMIRE71ACYA	Left Rear Door Mid Rear (Y)	60	+	yes	2000
212	14DOORMIUP71ACYA	Left Rear Door Upper Centerline (Y)	60	+	yes	2000
213	11SENS000000VO00	Driver primary	0	+	no	5
214	11SENS010000VO00	SAB TIMING IND	0	+	no	5
215	11SENS020000VO00	SCAB TIMING IND	0	+	no	5
216	11HEADCONT00VO0A	Head Contact	1000	+	no	1
217	11SHLDCONT00VO0A	Shoulder Contact	1000	+	no	1
218	11THORCONT00VO0A	Thorax Contact	1000	+	no	1
219	11LEGCONT000VO0A	Leg Contact	1000	+	no	1
220	14HEADCONT00VO0A	Head Contact	1000	+	no	1
221	14SHLDCONT00VO0A	Shoulder Contact	1000	+	no	1
222	14THORCONT00VO0A	Thorax Contact	1000	+	no	1
223	14LEGCONT000VO0A	Leg Contact	1000	+	no	1

Command File Test Number 120906 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
224	14PELVFR00WFEV0A	Pelvis Contact Frnt	1000	+	no	1
225	14PELVMI00WFEV0A	Pelvis Contact Mid	1000	+	no	1
226	14PELVRE00WFEV0A	Pelvis Contact Rear	1000	+	no	1
227	M0MBARCG0000ACXA	MDB CG AX	60	+	yes	2000
228	M0MBARCG0000ACYA	MDB CG AY	60	+	yes	2000
229	M0MBARCG0000ACZA	MDB CG AZ	60	+	yes	2000
229A	M0MBARCG0000ACRA	MDB CG A Resultant	60			
230	M0FRAMRE0000ACXA	MDB REAR AX	60	+	yes	2000
231	M0FRAMRE0000ACYA	MDB REAR AY	60	+	yes	2000

Moving Deformable Barrier Into Left Side of 2011 Jeep Grand Cherokee 120906; Test Time 16:02

D-19

120906

